

Minnesota Plant Studies

V GUIDE TO THE AUTUMN FLOWERS OF MINNESOTA FIELD AND GARDEN

E. R. CLEMENTS, C. H. ROSENBLATT
AND
F. K. BUTTER

QK168
C57

the D. H. Hill Library

North Carolina State
University

168

7



This book was presented by

Harlan C. Brown

THIS BOOK IS DUE ON THE DATE
INDICATED BELOW AND IS SUB-
JECT TO AN OVERDUE FINE AS
POSTED AT THE CIRCULATION
DESK.

JUN 2 1988

J

JAN 10 1999

N.C. STATE UNIVERSITY D.H. HILL LIBRARY



S00307315 J

Minnesota Plant Studies

V.

GUIDE

TO THE

AUTUMN FLOWERS OF MINNESOTA
FIELD AND GARDEN

F. E. CLEMENTS, C. O. ROSENDAHL
AND
F. K. BUTTERS

University of Minnesota
Minneapolis
June 1913

Preface

The present number of "Minnesota Plant Studies" is a companion guide to the third edition of "Spring Flowers." It is prepared for the purpose of enabling high schools to begin work with flowering plants in the fall, and thus give the student some preliminary knowledge and training as a basis for the field and garden work in the spring. For this reason, cultivated species as well as native ones are included, and special attention is given to the weeds, grasses and composites, which play such a large and practical part in fall vegetation. An endeavor has been made to include all the species found in bloom after September first. The majority begin to bloom in July and August, so that autumn and spring guides together will serve fairly well for the recognition of the summer species. For the sake of plant lovers generally, as well as for the increasing number of colleges and high schools with greenhouses, all of the common species blooming during the winter have been added also.

The flowering plants of the whole school year, from September 1 to June 15, both cultivated and native, are now covered by the two guides to spring flowers and to autumn flowers. In a few years it is expected that a summer guide will be prepared in anticipation of the time when a completely illustrated book of all the flowers of the state will be possible.

Britton and Brown's "Illustrated Flora" and Gray's "Manual" have been freely drawn upon in the preparation of the present guide, and acknowledgment is hereby made of their aid. The grouping of the families is essentially that of the Besseyan system of classification. The sequence is from pines and buttercups to pinks and mints to roses and asters, and then to lilies, grasses and orchids.

In addition to the list of publications in the following series, "Minnesota Trees and Shrubs" is also available for students and plant lovers generally. In fact, it supplants the "Guide to Trees and Shrubs," which will not be republished hereafter. "Minnesota Algae" is also valuable for schools, health officers, water and fish commissioners, as well as to others who possess microscopes.

MINNESOTA PLANT STUDIES

1. Guide to Spring Flowers, third edition (15 cents).
2. Guide to Trees and Shrubs, second edition (10 cents).
3. Guide to Ferns and Fern Allies (10 cents).
4. Minnesota Mushrooms (paper, 50 cents; cloth, \$1.00).
5. Guide to Autumn Flowers (15 cents).
6. School Gardens and Greenhouses (15 cents). (In preparation).

Copies of the above publications are sent free to residents of Minnesota. Ten copies of Nos. 1, 5 and 6 will be furnished free to the schools and colleges of the state. Additional copies may be secured at the price indicated. This is the price also for non-residents, who are not on the exchange list of the Botanical Survey.

FREDERIC E. CLEMENTS,
Head of the Department of Botany and State ~~Botanist~~

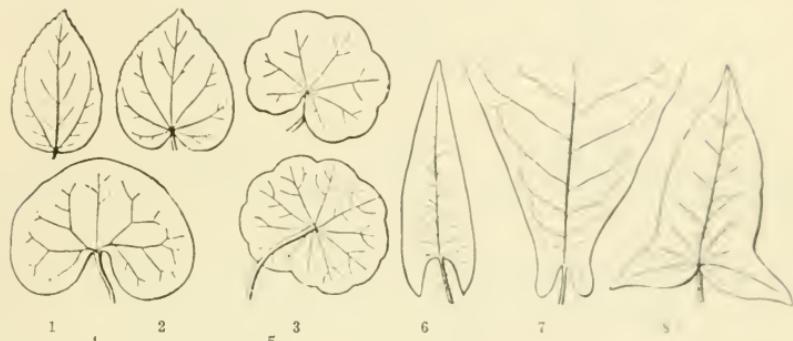
The University of Minnesota
May, 1913.

Introduction

HOW TO USE THE KEY

The method of using the keys for finding the names of plants may be shown best by taking a common flower as an example. If we choose the morning glory for this purpose, we turn to the "Key to Families" on page xi. Here it is necessary to decide first whether the petals are present or absent. Since petals and sepals are both clearly present, choice is made of "L. Petals present." Under this heading it is then necessary to decide between "1. Flowers single or in clusters?" and

I. LEAF OUTLINES



1. Rounded. 2. Cordate (heart-shaped). 3. Reniform (kidney-shaped). 4. Peltate (shield-shaped).
5. Sagittate (arrow-shaped). 6. Auriculate (eared). 7. Hastate (halberd-shaped). 8. Oval.

"2. Flowers in heads." Examples of the latter are clover, sunflower, asters, etc. The morning glory evidently falls under "1." The next choice is between "a. Petals 3," and "b. Petals 4 or more." Since the morning glory has five petals grown into a funnel-shaped tube, "b" is chosen, and the decision then rests between "(1) Petals separate" and "(2) Petals united" and then under "(2)" between "(a) Ovary superior, i. e., within the other parts," and "(b) Ovary inferior, i. e., below the other parts." The ovary is found within the corolla tube and is consequently superior. An

II. LEAF OUTLINES AND BASES



1. Linear. 2. Lanceolate (lance-shaped). 3. Oblong. 4. Elliptic. 5. Oval. 6. Ovate (egg-shaped).
7. Oblanceolate. 8. spatula-like. 9. Obovate (reversed ovate).
10. Cuneate (wedge-shaped).

inferior ovary is found at the bottom of the calyx and corolla, as in the iris, the honeysuckles and the single flowers of dandelions, asters, etc. It is next necessary to know the number of rooms or cells in the ovary. This can be told readily from the ripe fruit as a rule, or from taking a cross section of the ovary. If there are no cross walls, the ovary is uncelled. In the morning glory the ovary is divided into three cells so that choice is first made of "a. Ovary 3-celled" in place of "a. Ovary one-celled," or "y. Ovary 24 celled," fitting the plant in hand. Under "x" we find "(a). Flowers"

and "(y) Erect herbs, or tendril climbers." The morning glory twines or climbs without tendrils, and our plant thus belongs to the "Convolvulaceae." This family is found in the text on page 14. Here the first step is to read carefully the description of the morning glory family. If there are no points of disagreement, the plant has been traced to the right family, and it is then necessary to

III. LEAF EDGES



1.	2.	3.	4.	5.	6.
Serrate (saw-toothed).	Dentate (toothed).	Crenate (scalloped).			
4. Undulate (wavy).	5. Sinuate (bayed).	6. Incised (laged).			

determine the particular genus by reference to the key which follows the family description. The morning glory clearly falls under "1. Stems leafy, green; flowers large." The choice then lies be-

IV. LEAF TIPS



1	2	3	4	5	6	7	8	9
1. Acuminate.	2. Acute.	3. Obtuse.	4. Truncate.					
6. Emarginate.	7. Obtuse.	8. Cuspidate.	9. Mucronate.					

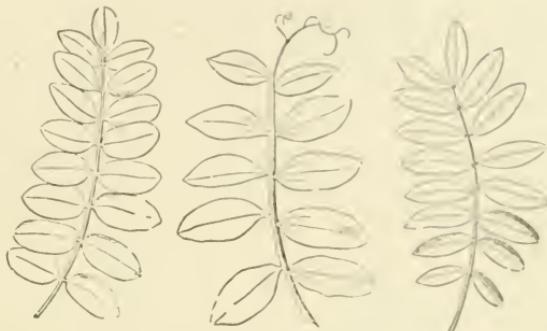
tween "a. Stigma capitate or head-like" and "b. Stigmas 2, linear." Since the stigma is one and capitate, the choice then falls between "(1) Leaves pinnately parted; corolla salver-form" and "(2)

V. LOBED LEAVES



Pinnately:	1. Lobed.	3. Cleft.	5. Parted.	7. Divided.
Palmately:	2. Loced.	4. Cleft.	6. Parted.	8. Divided.

Leaves not parted; corolla funnel-form." The common morning glory above the statement is included in "(2)" and hence belongs to the genus "Ipomoea." Under this game, the whole is hermaphrodite. "1. Flowers opening in the morning" and "(2) Flowers opening at night." As the former could indicate, the morning glory belongs in "1." Under "1" the funnel-form corolla leads to the choice of "a," and under "a" the choice falls upon "(1) Leaves cordate, entire stem hermaphrodite."



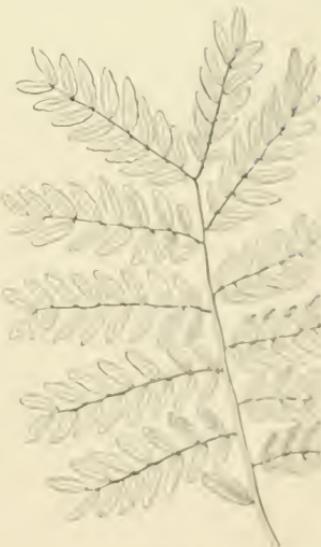
1. Odd-pinnate. 2. Tendril-pinnate. 3. Even-pinnate.

The same method is used in locating any plant whose name is desired. The essential points in using the key are: first, that the choice must be made between two, rarely three, alternatives. These alternatives are indented the same distance from the margin, and are numbered or lettered in sequence, for example, "I" and "II," "a" and "b," and "(1)" and "(2)," "x," "y," and "z," etc. Secondly, after choice has been made of one alternative, no further attention is paid to the other alternative. In making the choice between them, however, it is essential to read both, as one often throws light

VI. COMPOUND LEAVES



4. Palmate or digitate.



5. Twice-pinnate

upon the other. In the last place, it is necessary to examine the plant carefully and not merely guess at the points in question. This applies also to the technical terms which cannot be avoided if leaves and flowers are to be described accurately.

In the case of a common weed, it will often be found convenient to make use of the "Key to Weeds" on page xv. This is particularly true of weeds in the fall, since their flowers have often disappeared. It is quite possible to place them, however, from the characters of leaves and fruits by the use of the key indicated. In finding the botanical name of the sweet clover, the first choice is between "1. Leaves simple," and "2. Leaves compound." Since the leaf of the sweet clover consists of three leaflets, it evidently falls under "2." The next choice is between "a. Leaves with three leaflets," and "b. Leaves with more than three leaflets." The choice here falls upon "a" and then the decision rests between "(1) Leaf margin entire" and "(2) Leaf margin serrate or toothed." Under "(2)" the choice lies between "(a) Leaf margin coarsely serrate or toothed" and "(b) Leaf margin finely serrate." This distinction requires some experience for entire certainty, but the small teeth on the leaflet of the sweet clover would seem to indicate fairly clearly that the choice would fall upon "(b)." Under "(b)" the height of the plant and the arrangement of the flowers in a long cluster or raceme indicate that the choice should rest upon "x. Upright plants 2-6 feet tall—*Melilotus alba*: sweet clover," page xviii.

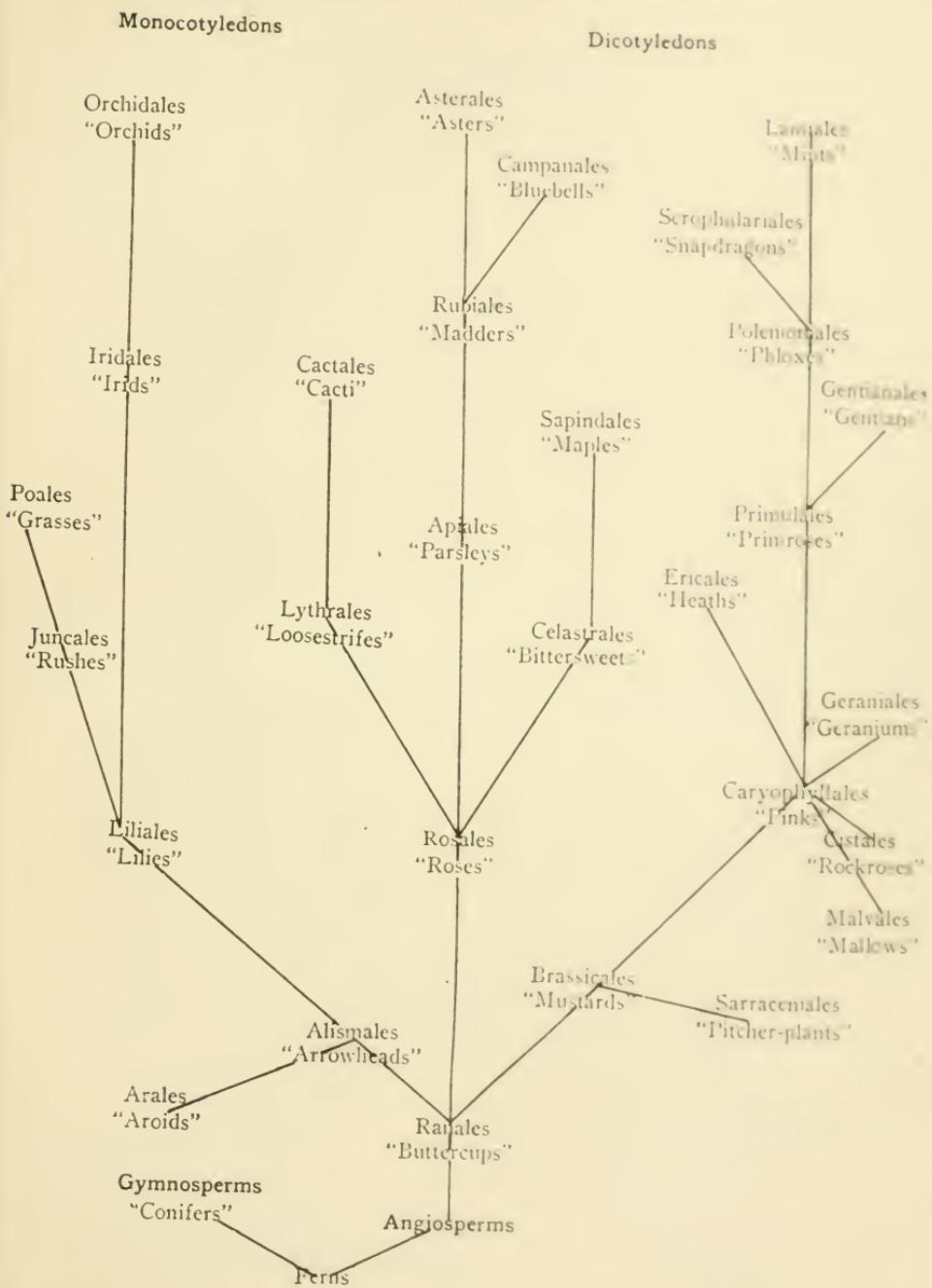
EXPLANATION OF THE CHART

The chart on page ix is designed to show the general lines of descent of flowering plants from the ancestral ferns, and to indicate the relationships of the various orders. It is based primarily upon the development of the flower as a special organ for pollination and seed-production. Families with the simplest flowers, that is, those with the flowers least changed from the fruiting organs of the ferns, are placed at the bottom of the chart. Such families are found in the gymnosperms and in the buttercup order. The flowers of the former are wind-pollinated, and lack both calyx and corolla. The flowers of most buttercups, on the other hand, are pollinated by insects, and possess both calyx and corolla, or a showy calyx. These are regarded as the primitive or earliest type of flower of the angiosperms. From the specialization of these, in response to insect and wind pollination, have been derived the orders and families of the three lines of evolution shown in the chart.

In detail, the primitive flower shows a large number of separate stamens and separate pistils, the petals are alike and separate, and there is no union between any of the four parts, sepals, petals, stamens and pistils. In the increasing adaptation of a flower to its work of pollination and seed-production, this primitive form has given rise to the higher or more specialized forms characteristic of the various orders of the chart. The chief steps by which this has been brought about are four, namely, reduction in number of parts, union, change in shape, change in position of the corolla, or elevation, but these changes have not appeared in the same sequence in all three lines. Reduction in number to a flower plan of 3, 4 or 5 has been almost universal in the groups just above the buttercups, though flowers occasionally occur with number plans of 6, 7, 8 and even 9. In flower structure, the arrowheads are essentially buttercups with parts in threes, while the lilies are arrowheads with the stamens and pistils reduced in number, and the latter united to form a compound pistil. In the irises, the colored perianth of sepals and petals is upon or above the ovary, and in the orchids, the corolla is strikingly irregular, one petal usually taking the form of a lip or sack.

In the roses, the buttercup type is modified by the gradual growing together of the calyx and receptacle, and finally of the ovary also, with the result that the corolla and stamens are above the calyx and ovary. In the lower roses, the number of stamens, and usually of pistils also is large, and the pistils are separate. In the higher families, the pistils are united into a compound pistil. In the madders and honeysuckles, the petals have become united, and finally, in most of the asters, some or all of the flowers of the characteristic heads become irregular as to their petals. In the mustards, pinks, and geraniums, the flower parts are regularly reduced to the number plan of 4 or 5, and the pistils are united. In the primroses, the petals become united, and in the snapdragons and mints, the corolla as a rule is highly irregular.

EVOLUTION AND RELATIONSHIP OF THE ORDERS



Key to Families

		Page
1. Petals present		
1. Flowers single or in clusters		
a. Petals 3		
(1) Ovary superior		
(a) Pistils several-many, simple	<i>Urticaceae</i>	44
(b) Pistil 1, compound		
x. Sepals green, or stiff and dry, unlike the petals	<i>Brassicaceae</i>	41
(x) Air plants with gray foliage	<i>Commelinaceae</i>	40
(y) Land plants with green leaves and sepals		
y. Sepals and petals similar in color and texture		
(x) Sepals and petals very small, scale-like, usually greenish brown	<i>Juncaginaceae</i>	
(y) Sepals and petals not scale-like nor greenish brown	<i>Pontederiaceae</i>	48
m. Aquatic plants, flowers irregular	<i>Liliaceae</i>	46
n. Land plants, flowers regular or nearly so		
(2) Ovary inferior		
(a) Aquatic, leaves submerged, flowers floating	<i>Hydrocharitaceae</i>	45
(b) Not aquatic		
x. Stamens 3-6, flowers regular or moderately irregular	<i>Amaryllidaceae</i>	50
(x) Stamens 6	<i>Iridaceae</i>	50
(y) Stamens 3		
y. Fertile stamens 1-2, flowers very irregular		
(x) Stamen not attached to style, seeds few	<i>Cannaceae</i>	61
(y) Stamen or stamens attached to the style, seeds very numerous	<i>Orchidaceae</i>	61
b. Petals 4 or more		
(1) Petals separate		
(a) Petals 4		
x. Flowers regular		
(x) Stamens 4, at least the anther-bearing ones	<i>Hamamelidaceae</i>	28
(y) Stamens 6 or more		
m. Stamens 6	<i>Burmanniaceae</i>	3
n. Stamens 8 or more		
(m) Stamens 8-10		
r. Fleshy plants	<i>Chloranthaceae</i>	27
s. Not fleshy		
(r) Ovary superior, i.e. within the other parts		
h. Pod bladdery; flowers white	<i>Sapindaceae</i>	28
i. Pod not bladdery; flowers yellowish	<i>Rubiaceae</i>	12
(s) Ovary inferior, i.e. below the other parts	<i>Oxalidaceae</i>	28
(n) Stamens 12 or more	<i>Rubiaceae</i>	4
y. Flowers irregular		
(x) Stamens many	<i>Asclepiadaceae</i>	1
(y) Stamen 1	<i>Oxalidaceae</i>	28
(b) Petals 5 or more		
x. Petals 5		
(x) Flowers regular		
m. Pistils few-many		
(m) Plants fleshy; stamens few	<i>Crassulaceae</i>	27

KEY TO FAMILIES

(n) Plants not fleshy; stamens many		
r. Stamens and petals coming off with the calyx	<i>Rosaceae</i>	24
s. Stamens and pistils entirely free from the calyx	<i>Ranunculaceae</i>	1
n. Pistil 1		
(m) Pistil with a single stigma	<i>Rosaceae</i>	24
(n) Pistil with 2 or more stigmas, or the ovary lobed		
r. Stamens 5-10		
(r) Ovary 4-5-celled or 10-celled	<i>Linaceae</i>	12
h. Leaves simple, entire		
i. Leaves lobed to compound	<i>Oxalidaceae</i>	11
(h) Leaves of 3 leaflets		
(i) Leaves not of 3 leaflets		
p. Flowers yellowish	<i>Rutaceae</i>	12
q. Flowers never yellow	<i>Geraniaceae</i>	10
(s) Ovary 1-2-celled		
h. Ovary 2-celled	<i>Saxifragaceae</i>	27
(h) Ovary superior, i.e. within the other parts		
(i) Ovary inferior, i.e. below the other parts	<i>Apiaceae</i>	30
i. Ovary 1-celled		
(h) Styles 2, the ovary lobed at tip	<i>Saxifragaceae</i>	27
(i) Styles 3-5, when 2 the ovary not lobed	<i>Caryophyllaceae</i>	4
s. Stamens many		
(r) Stamens united into a column	<i>Malvaceae</i>	8
(s) Stamens not united into a column	<i>Portulacaceae</i>	6
(y) Flowers irregular		
m. Flowers spurred		
(m) Spur formed by a petal	<i>Violaceae</i>	4
(n) Spur formed by a sepal	<i>Tropaeolaceae</i>	11
n. Flowers not spurred		
(m) Stamens 6-8; ovary 2-celled	<i>Polygalaceae</i>	4
(n) Stamens 10; ovary 1-celled	<i>Fabaceae</i>	25
y. Petals apparently 6		
(x) Stamens 5; flower very irregular, one sepal spurred	<i>Balsaminaceae</i>	11
(y) Stamens 6, pistil 1; petals really 3	<i>Liliaceae</i>	46
(z) Stamens and pistils many; petals really sepals	<i>Ranunculaceae</i>	1
z. Petals many; double flowers of many families, to be determined by the beginner only when single		
(2) Petals united		
(a) Ovary superior, i.e., within the other parts		
x. Ovary 1-celled, or pistils 5, separate		
(x) Ovary 1-celled		
m. Corolla regular		
(m) Stigma 1		
r. Stamens opposite the corolla lobes	<i>Primulaceae</i>	13
s. Stamens alternate with the corolla lobes	<i>Gentianaceae</i>	17
(n) Stigmas 5	<i>Plumbaginaceae</i>	13
n. Corolla irregular		
(m) Calyx teeth with hooked bristles	<i>Verbenaceae</i>	21
(n) Calyx not bristly	<i>Gesneraceae</i>	20
(y) Pistils 5, separate	<i>Crassulaceae</i>	27
y. Ovary 2-4-celled, rarely the 2 cells separate or 4-lobed		
(x) Ovary 2-celled, or 2 ovaries united by the stigmas		
m. Corolla papery, tiny, 4-lobed	<i>Plantaginaceae</i>	14
n. Corolla not papery and tiny, rarely 4-lobed		
(m) Flowers regular; stamens as many as the corolla lobes		
r. Ovary 2-celled		

KEY TO FAMILIES

361

<ul style="list-style-type: none"> (r) Ovary and fruit few-seeded (s) Ovary and fruit many-seeded s. Ovaries 2, united at the tip only (n) Flowers irregular; stamens 2-4, rarely 5 r. Shrubs s. Herbs <ul style="list-style-type: none"> (r) Seeds borne directly on the ovary wall (s) Seeds borne on cup- or hook-like processes 	<i>Convolvulaceae</i> 4 <i>Antennariaceae</i> 1 <i>Araliaceae</i> 18 <i>Ericaceae</i> 21 <i>Scrophulariaceae</i> 16 <i>Clusiaceae</i> 20
<ul style="list-style-type: none"> (y) Ovary 4-celled or 4-lobed m. Ovary 4-celled <ul style="list-style-type: none"> (m) Leaves rising directly from a creeping rootstock (n) Leaves borne on above-ground stems <ul style="list-style-type: none"> r. Leaves opposite s. Leaves alternate, at least above <ul style="list-style-type: none"> (r) Leaves alternate throughout; fruit of 4 nutlets (s) Leaves opposite below; fruit a hooked pod n. Ovary 4-lobed or 4-divided <ul style="list-style-type: none"> (m) Leaves opposite; flowers mostly irregular (n) Leaves alternate; flowers mostly regular z. Ovary 3-celled <ul style="list-style-type: none"> (x) Twiners (y) Erect herbs, or tendril climbers 	<i>Apocynaceae</i> 46 <i>Ericaceae</i> 21 <i>Rubiaceae</i> 17 <i>Leguminosae</i> 20
<ul style="list-style-type: none"> (b) Ovary inferior, i.e., below the other parts x. Woody plants y. Herbs <ul style="list-style-type: none"> (x) Stamens 1-3 <ul style="list-style-type: none"> m. Erect herbs n. Climbing or trailing plants, usually with tendrils (y) Stamens 4-5 <ul style="list-style-type: none"> m. Sap milky; stamens often united n. Sap not milky; stamens separate (z) Stamens many; flowers monoecious or dioecious 	<i>Caprifoliaceae</i> 32 <i>Thymelaeaceae</i> 32 <i>Cannabaceae</i> 29 <i>Campanulaceae</i> 32 <i>Rubiaceae</i> 31 <i>Boraginaceae</i> 30
<p>2. Flowers in heads</p> <ul style="list-style-type: none"> a. Ovary superior; flowers pea-like b. Ovary inferior; flowers not pea-like <ul style="list-style-type: none"> (1) Stamens united by their anthers (2) Stamens separate 	<i>Fabaceae</i> 25 <i>Asteraceae</i> 33 <i>Dipsacaceae</i> 32
<p>II. Petals absent</p>	
<p>I. Sepals present, often petal-like, rarely very minute</p> <ul style="list-style-type: none"> a. Calyx funnel-form, bright-colored; involucre calyx-like b. Calyx not funnel-form <ul style="list-style-type: none"> (1) Pistils several-many (2) Pistil 1, at least the ovary <ul style="list-style-type: none"> (a) Stamens as many as the sepals <ul style="list-style-type: none"> x. Flowers in dense fleshy spikes y. Flowers not in fleshy spikes <ul style="list-style-type: none"> (x) Ovary superior <ul style="list-style-type: none"> m. Flower clusters papery because of papery bracts n. Flower clusters without papery bracts <ul style="list-style-type: none"> (m) Sepals 3 (n) Sepals 4 or more <ul style="list-style-type: none"> r. Stipules papery and sheathing the (inner) calyx often corolla-like s. Stipules not papery, or lacking <ul style="list-style-type: none"> (r) Stigma 1 (s) Stigmas 2-4 	<i>Violaceae</i> 3 <i>Ranunculaceae</i> 1 <i>Rubiaceae</i> 45 <i>Ericaceae</i> 40 <i>Convolvulaceae</i> 40 <i>Polygonaceae</i> 7 <i>Urticaceae</i> 17

KEY TO FAMILIES

h. Fruit a capsule; stigmas 3	<i>Mollugaceae</i>	6
i. Fruit an achene or utricle; stigmas mostly 2		
(h) Flowers perfect or monoecious	<i>Chenopodiaceae</i>	7
(i) Flowers dioecious	<i>Moraceae</i>	10
(y) Ovary inferior		
m. Petal-like sepals forming a tube; style 1	<i>Allioniaceae</i>	8
n. Styles 2; tube lacking	<i>Apiaceae</i>	30
(b) Stamens more numerous than the sepals		
x. Sepals 4; stamens 6	<i>Brassicaceae</i>	3
y. Sepals 5, or apparently so, often petal-like		
(x) Stamens apparently numerous; fruit a capsule	<i>Euphorbiaceae</i>	12
(y) Stamens 6-8; fruit an achene	<i>Polygonaceae</i>	7
2. Sepals absent, or occasionally very minute		
a. Flowers in small heads, surrounded by 5 petal-like parts	<i>Euphorbiaceae</i>	12
b. Flowers in spikes or spikelets		
(1) Spike fleshy, with a petal-like spathe	<i>Araceae</i>	45
(2) Flowers in papery spikelets with scales		
(a) Flower enclosed in 2 scales, stem hollow, round	<i>Graminaceae</i>	50
(b) Flower with a single scale; stem solid, mostly triangular	<i>Cyperaceae</i>	49

Key to Weeds

For weeds among the grasses and composites, see the keys on pages 33 and 50

1. Leaves simple

a. Leaves not lobed or cut

(1) Plants rosette-like, mat-like or creeping

(a) Leaves large, 5-10 cm. or more, rounded; ~~annuals or perennials~~

x. Leaves elliptic to ovate, in a rosette

(x) Leaves parallel-veined

(y) Leaves netted-veined, very large

 m. Leaves densely woolly, hairy

 n. Leaves not woolly

y. Leaves round, on creeping stems

Plant/leaf habit/flower

Veronica thlaspioides annual
Arenaria lappa biennial
Malva verticillata biennial
cheeses

Portulaca oleracea annual

Euphorbia maculata
purple

Euphorbia corollata
purple
Euphorbia glyptophylla
purple

Malva verticillata carpet
weed

Polygonum persicaria knot-
root
Amaranthus blitoides amar-
anth

(b) Leaves small, 1-3 cm. linear to ovate, annuals

x. Leaves and stem thick and fleshy, not milky

y. Leaves and stem milky

 (x) Leaves and stems hairy

 (y) Leaves and stems smooth

 m. Seeds faintly transversely ridged and pitted

 n. Seeds strongly transversely ridged, not pitted

z. Leaves and stems neither fleshy nor milky

 (x) Leaves narrow, in whorls

 (y) Leaves broader, alternate

 m. Flowers solitary in the axils

 n. Flowers clustered in the axils

(2) Plants erect, ascending, decumbent or climbing

(a) Stems climbing

x. Fruits triangular, flowers inconspicuous

y. Fruits rounded, flowers large white

(b) Stems not twining nor climbing

x. Annuals

 (x) Stems and leaves milky

 (y) Stems and leaves not milky

 m. Plants bushy, tumble weeds

 (m) Leaves obovate or spoon-shaped

 (n) Leaves linear, somewhat fleshy

 o. Stems with spiny bracts

 p. Stems not spiny, often red

 n. Plants not bushy, not tumble weeds

 (m) Flowers and fruits in terminal clusters or racemes

Polygonum aviculare knot-
root
Amaranthus blitoides amar-
anth

Euphorbia corollata purple

Amaranthus spinosus spinous
purple weed

Salsola kali *Eruca sativa* thistle
Kochia scoparia common
purple

o. Fruit a many-seeded 4-celled pod *Onágra biénnis: evening primrose*

p. Fruit 1-seeded

- (o) Fruit inclosed in greenish, white or pink sepals, nodes enlarged, stipules sheathing *Polýgonum pennsylvánicum: persicaria*
- r. Plants 1-3 feet, racemes short and thick
- s. Plants 1-1½ feet, racemes narrow

 - (r) Sepals white or pink *Polýgonum lapathifolium: pale persicaria*
 - (s) Sepals greenish *Polýgonum hydropiper: smartweed*

- (p) Fruit inclosed in fleshy-mealy sepals, stems ridged *Chenopódium álbum: goosefoot*
- (q) Fruit inclosed in dry spiny sepals

 - r. Dull green, spikes dense *Amaránthus retrofréxus: pigweed*
 - s. Deeper green, spikes slender *Amaránthus hýbridus: green pigweed*

(n) Flowers and fruits in the axils of the leaves

o. Fruit a blue-black berry *Solánum nígrum: nightshade*

p. Fruit dry, not berries

- (o) Stems four-sided, leaves cordate *Lámium amplexicaúle: henbit*
- (p) Stems round, leaves ovate to lanceolate

 - r. Leaves alternate, fruits surrounded with leafy bracts *Commelína commúnis: dayflower*
 - (r) Leaves parallel-veined, petioles sheathing *Acalýpha virginíca: 3-seeded mercury*
 - (s) Leaves net-veined, petioles not sheathing

- s. Leaves opposite

 - (r) Plants smooth, transparent and watery *Pilea púmila: clearweed*
 - (s) Plants more or less hairy, not transparent

 - t. Plants tall, fruit 1 cm. or more *Siléne noctiflóra: night-flowering catchfly*
 - u. Plants low, spreading, fruit less than 1 cm.

 - (t) Leaves all sessile and viscid hairy *Cerástium vulgátum: mouse-ear chickweed*
 - (u) Lower leaves petioled, slightly hairy *Stellária média: chickweed*

y. Perennials or biennials

 - (x) Leaves densely gray-woolly, large and basal *Verbáscum thápsus: mullein*
 - (y) Leaves not woolly, mostly on the stem

 - m. Leaves linear *Linária vulgaris: butter and eggs*
 - n. Leaves oblong to ovate or lanceolate

(m) Leaves alternate with sheathing stipules *Rúmex críspus: dock*

(n) Leaves opposite without sheathing stipules

 - o. Margin of leaf entire
 - (o) Fruit surrounded by large green involucre *Alliónia nyctagínea: soapwort*
 - (p) Fruit surrounded by close-fitting calyx

p. Margin of leaf serrate or toothed

 - (o) Flowers in spikes or racemes, leaves not strong scented *Saponaria officinalis: soapwort*
 - r. Leaves sessile, spikes dense *Verbéna stricta: hoary ver-vain*

KEY TO WEEDS

s. Leaves petioled, spikes slender

(r) Flowers in long, slender terminal spikes *Polygonum setiferum* *var.* *setiferum*

(s) Flowers in numerous axillary spikes *Citrullus colocynthis* *var.* *colocynthis*

(p) Flowers in axillary clusters, leaves strong *Amaranthus viridis* *var.* *viridis*

b. Leaves lobed or cut

(1) Leaves opposite

(a) Stems climbing, rough, almost prickly *Hedysarum diffusum* *var.* *var.*

(b) Stems not climbing, square or squarish *Acetosella hispida* *var.* *hispida*

x. Stems prostrate, bracted, fruit unarmed *Acetosella hispida* *var.* *hispida*

y. Stems erect, not bracted, fruits spiny

(2) Leaves alternate

(a) Stems climbing, fruit spiny *Mesembryanthemum cordifolium* *var.* *cordifolium*

x. Fruits borne singly, four-seeded *Stellaria aquatica* *var.* *quadrangula*

y. Fruits in clusters, one-seeded *Cladonia glomerata* *var.* *glomerata*

(b) Stems erect or nearly so, fruit mostly smooth *Stellaria media* *var.* *media*

x. Fruit small, flattened, 1-seeded, in clusters *Cladonia glomerata* *var.* *glomerata*

y. Fruit a several to many seeded pod *Stellaria media* *var.* *media*

(x) Pod elongated or narrow *Stellaria media* *var.* *media*

m. Pod 6-10 cm. long, flowers cream colored *Stellaria media* *var.* *media*

n. Pod 1-2 cm. long, flowers yellow *Stellaria media* *var.* *media*

(m) Pod sessile *Stellaria media* *var.* *media*

(n) Pod stalked *Reedera perfoliata* *var.* *perfoliata*

o. Pod 1 cm. or less, shorter than the spreading pedicels *Reedera perfoliata* *var.* *perfoliata*

p. Pod 1-2 cm., longer than pedicels, appressed or ascending *Reedera perfoliata* *var.* *perfoliata*

(o) Beak $\frac{1}{3}$ - $\frac{1}{4}$ as long as pod *Reedera perfoliata* *var.* *perfoliata*

r. Pod 10-15 mm. long *Reedera perfoliata* *var.* *perfoliata*

s. Pod 2-5 cm. long *Reedera perfoliata* *var.* *perfoliata*

(p) Beak very short, pods appressed *Reedera perfoliata* *var.* *perfoliata*

(y) Pod rounded or triangular *Reedera perfoliata* *var.* *perfoliata*

m. Pod large, spiny *Reedera perfoliata* *var.* *perfoliata*

n. Pod small, flat and smooth *Reedera perfoliata* *var.* *perfoliata*

(m) Pod rounded, 2 seeded *Reedera perfoliata* *var.* *perfoliata*

(n) Pod triangular, many seeded *Reedera perfoliata* *var.* *perfoliata*

2. Leaves compound

a. Leaves with 3 leaflets

(1) Leaf-margin entire

(a) Plants strong-scented, leaflets not notched at apex *Polygonum perfoliatum* *var.* *perfoliatum*

(b) Plants scentless, leaflets notched at apex *Polygonum perfoliatum* *var.* *perfoliatum*

(2) Leaf margin serrate or toothed

- (a) Leaf margin coarsely serrate or toothed
 - (b) Leaf margin finely serrate
 - x. Upright plants, 2-6 feet tall
 - y. Plants lower, flowers in heads
 - (x) Flowers white or whitish
 - m. Plants creeping
 - n. Plants ascending or erect
 - (y) Flowers deep pink
 - b. Leaves with more than 3 leaflets
 - (1) Leaves palmate
 - (a) Leaves silvery underneath, plants creeping
 - (b) Leaves green both sides, plants tall
 - (2) Leaves pinnate
 - (a) Leaves with 5 (rarely 3) leaflets, flowers purple, in spikes
 - (b) Leaves with numerous leaflets, flowers yellow, not in spikes

Potentilla monspeliensis:
cingfoil

Melilotus álba: sweet clover

Trifolium répens: white clover

Trifolium hýbridum: alsike

Trifolium pratense: red clover

Potentilla argéntea: silvery cingfoil

Cánnabis sativa: hemp

Petalostémon purpúreus:
prairie clover

Cássia chamaecrýsta: partridge pea

Herbs or climbing shrubs; sepals 3-15, petals 0-15, stamens 5-15, *gynoecium* 1-5, fruit an achene, follicle or berry; flower apocarpous, apopetalous or apetalous, lvs. symmetrically regular.

1. Flowers regular

- a. Climbing vine *Clematis*
- b. Erect herbs
 - (1) Petals present, often much smaller than the sepals
 - (a) Petals conspicuous, yellow *Ranunculus*
 - (b) Petals much smaller than the colored sepals
 - x. Sepals whitish; leaves palmately divided *Hedera*
 - y. Sepals bluish; leaves finely cut *Nigella*
 - (2) Petals absent; sepals colored *Anemone*

2. Flowers irregular

- a. Upper sepal hood-like *Archangelum*
- b. Upper sepal funnel-like or spurred *Delphinium*

Clématis—Virgin's Bower, Clematis
(Gr. *klematis*, a climbing plant)

1. Leaflets toothed; flowering in summer *C. c. depressa*
 2. Leaflets entire; flowering in autumn *C. A. sphaerocarpa*

Ranunculus—Buttercup, Crowfoot

(Lat. *ranunculus*, a little frog, perhaps from its habitat)

1. Leaves lobed or cut

- Flowers yellow
 - Flowers 1-3 cm. wide
 - Flowers 1-2 cm. wide; stems smooth
 - Flowers 2-3 cm. wide; stems hairy
 - Flowers 4-5 cm. wide, often double
- Flowers white

2. Leaves not lobed

- Leaves entire, oblong or lanceolate
- Leaves crenate, rounded

Helleborus—Hellebore, Christmas Rose

(Gr. *helleboros*, hellebore, of ancient repute as a medicine)

Leaves lobed; flowers white to pink

Nigella—Ragged Lady, Maid-in-a-Mist

(Lat. *niger*, black, -ella, small, from the long words)

Leaves finely dissected, the upper enclosing the flower

Anemone—Anemone. Windflower

(Gr. *anemone*, shaken by the wind. *hēm* windblown)

1. Stamens blue; peduncles 1-2
2. Stamens yellow; peduncles 2-5

PAPAVERACEAE—CAPPARIDACEAE

Aconítum—Aconite, Monkshood

(Gr. *akoniton*, monkshood, perhaps from an original rocky home)

1. Leaves 3-parted, but not divided to the base *A. columbianum*
2. Leaves 4-9-lobed, usually divided to the base
 - a. Helmet closed *A. autumnale*
 - b. Helmet open
 - (1) Helmet narrow and cone-like *A. lycoctonum*
 - (2) Helmet broad and low *A. napellus*

Delphinium—Larkspur, Rocket

(Gr. *delphinion*, larkspur)

1. Pistils 2-3; leaves coarsely lobed *D. formosum*
2. Pistil 1; leaves finely cut
 - a. Pod smooth; flowers scattered *D. consolida*
 - b. Pod downy; flowers in a dense raceme *D. ajacis*

Brassicaceae—Mustard Order

Papaveraceae—Poppy Family

Herbs with colored or milky sap; sepals 2, petals 4-12, stamens many, ovary 1-celled, fruit a capsule; flower syncarpous, apopetalous, hypogynous, regular.

1. Leaves spiny *Argemone*
2. Leaves not spiny
 - a. Buds drooping
 - (1) Flowers 5-15 cm. wide; sap white *Papaver*
 - (2) Flowers 1-2 cm. wide; sap yellow *Chelidonium*
 - b. Buds erect or nearly so
 - (1) Leaves pinnatifid; sap saffron *Glaucium*
 - (2) Leaves dissected; sap colorless *Eschscholtzia*

Argemón—Prickly Poppy

(Gr. *argemone*, a kind of poppy)

1. Flowers yellow; leaves spotted *A. mexicana*
2. Flowers white; leaves not spotted *A. intermedia*

Papáver—Poppy

(Lat. *papaver*, poppy)

1. Stems leafy
 - a. Leaves oblong, toothed, smooth and glaucous *P. somniferum*: *opium p.*
 - b. Leaves pinnatifid, bristly, green
 - (1) Plant 1 m. high; flowers 1-2 dm. wide *P. orientale*: *oriental p.*
 - (2) Plant ½ m. high; flowers ½ dm. wide *P. rhoæas*: *corn p.*
2. Stems leafless
 - a. Leaf divisions entire or somewhat cleft; capsule roundish *P. nudicaule*: *Iceland p.*
 - b. Leaf divisions finely cut; capsule club-shaped *P. alpinum*: *alpine p.*

Chelidónium—Celandine

(Gr. *chelidonium*, swallow)Leaves pinnate or twice pinnatifid; flowers yellow *C. mäjus*

Gláucium—Horned Poppy

(Gr. *glaucion*, the juice of the horned poppy)Leaves pinnatifid; flowers yellow; pod beaked *G. luteum*

Eschschóltzia—California Poppy

(Named for the collector, Eschscholtz)

Leaves dissected; flowers orange-yellow *E. californica*

Capparidáceae—Caper Family

Herbs with compound leaves; sepals 4, petals 4, stamens 6-12, ovary 2-celled, flower syncarpous, apopetalous, hypogynous, regular.

1. Flowers pink; stamens 6 *Cleome*
2. Flowers yellowish; stamens 10-12 *Polanisia*

BRASSICACEAE

Cléome—Cleome, Rocky Mountain Beggart-plant

(Of uncertain origin and meaning)

Leaves of 3 leaflets; flower pink; ovary stalked

C. speciosa

Polanisia—Polanisia

(Gr. *polys*, many, *anisos*, unequal, improperly formed, but referring to the unequal stamens)

Leaves of 3 leaflets; flowers yellowish; ovary nearly sessile

P. grandiflora

Brassicáceae—Mustard Family

Herbs; sepals 4, petals 4, stamens 6 or 4, 2 shorter, ovary 2-celled, fruit *oblong*, *acute*, *oblique*, *acute*, *oblique*, syncarpous, apopetalous, hypogynous, usually regular.

1. Pod globe, rounded or triangular

a. Pod globe

Alyssum

b. Pod round and flat

(1) Flowers tiny, whitish or greenish

Lepidium

(2) Flowers larger, white or purple, two petals larger

Thlaspi

c. Pod triangular

Buraria

2. Pod oblong to linear

a. Pod remaining closed when ripe

Raphanus

b. Pod opening by two valves when ripe

(1) Pod beaked at the tip

Brassica

(2) Pod not beaked at the tip

x. Seeds in one row in each cell; flowers usually purple to red

Matthiola

y. Seeds in two rows in each cell; flowers yellow or white

(x) Pods awl-shaped

Sisymbrium

(y) Pods oblong to almost round

Roripa

Alyssum—Sweet Alyssum

(Gr. *alyssos*, curing madness, probably from supposed medicinal qualities)

Leaves lanceolate or linear; flowers white, fragrant

A. maritimum

Lepidium—Pepper-grass

(Gr. *lepidion*, little scale, referring to the pods)

1. Flowers greenish; petals lacking

L. apetalum

2. Flowers white; petals present

L. virginicum

Ibóris—Candytuft

(From Iber, the early name of Spain)

Leaves lanceolate to linear; flowers purplish

I. umbellata

Búrsa—Shepherd's Purse

(Lat. *bursa*, purse, referring to the pods)

Leaves deeply cut, often entire on the stem; flowers white

B. officinalis

Brássica—Cabbage, Mustard

(Lat. *brassica*, cabbage)

1. Cultivated

B. oleracea—Cabbage

a. Leaves smooth, glaucous; flowers pale yellow

B. oleracea—Parsnip

b. Leaves hairy, green; flowers brighter yellow

B. oleracea—Mustard

2. Weeds

a. Pod 2½-5 cm. long, beak 6-15 mm. long

B. nigra—Sheep's w.

b. Pod 1-2½ cm. long, beak 2-10 mm. long

B. nigra—Mustard

(1) Beak 2-4 mm. long

B. campestris—Mustard

(2) Beak 8-10 mm. long

Ráphantus—Radish

(Gr. *rha*, quick, *phanos*, appearing, referring to the germination)

1. Cultivated; flowers pink to white, pods 2-3-seed

R. sativus

2. Weed; flowers yellow, then white, pods 4-10-seed

R. raphanistrum

POLYGALACEAE—CARYOPHYLLACEAE

Matthiola—Stock, Gilliflower

(Named for the Italian botanist, Matthioli)

1. Stem herbaceous; annual
2. Stem woody at base; perennial

*M. annua**M. incana*

Sisymbrium—Hedge Mustard

(Gr. name of some mustard)

1. Pod 1-2 cm. long; flowers yellow
2. Pod 6-10 cm. long; flowers cream-colored

*S. officinale**S. altissimum*

Nasturtium—Cress, Horseradish

(Lat. *nasturtium*, cress, from *nasus tortus*, due to its pungency)

1. Cultivated; flowers white
a. Aquatic; leaves pinnate
b. Terrestrial; leaves large, simple, crenate
2. Native; flowers yellow
a. Stems spreading, 1-2 dm. high
b. Stems erect, 3-8 dm. high

N. officinale: water cress
N. armoracia: horse-radish*N. sinuatum*
N. palustre

Polygalaceae—Milkwort Family

Herbs with entire leaves; sepals 5, 2 larger, petals 3, somewhat united, stamens 8, ovary 2-celled, fruit a capsule; flower syncarpous, slightly sympetalous, hypogynous, somewhat zygomorphic.

Polýgala—Milkwort

(Gr. *polys*, much, *gala*, milk, from its supposed virtue in increasing the flow of milk)

Leaves linear, whorled; flowers whitish

P. verticillata

Resedáceae—Mignonette Family

Low herbs, with simple entire or lobed leaves; sepals 4-7, petals 4-7, irregular, stamens 10-40, ovary 1-celled, of 3-6-carpels, fruit a capsule; flower syncarpous, apopetalous, hypogynous, zygomorphic.

Réséda—Mignonette

(Lat. *reseda*, a medicinal plant, from *resedare*, to allay)

Leaves oblong, entire or 3-lobed; flowers greenish, fragrant

R. odorata

Violáceae—Violet Family

Low herbs, with simple entire to deeply cut leaves; sepals 5, petals 5, 1 spurred, stamens 5, ovary 1-celled, carpels 3, fruit a capsule; flower syncarpous, apopetalous, hypogynous, zygomorphic.

Viola—Violet, Pansy, Heart's-ease

(Lat. *viola*, violet)

1. Flowering stems leafy; stipules large

a. Spur short, blunt

(1) Flowers large, 3-5 cm. wide

V. tricolor: pansy

(2) Flowers small, 1-2 cm. wide

V. arvensis: field p.

b. Spur long, acute

V. cornuta

2. Flowering stems leafless; stipules lacking

a. Lobes of the leaf broad, especially the middle one

V. palmata

b. Lobes narrow, linear

V. pedata

Caryophyllales Pink Order

Caryophylláceae—Pink Family

Herbs with opposite entire leaves; sepals 4-5, petals 4-5, rarely none, stamens 4-10, ovary 1-celled, rarely 2-5-celled, styles 2-5, fruit a capsule; flower syncarpous, apopetalous, hypogynous, regular.

1. Sepals united

a. Styles 2

(1) Calyx with scales at base

Dianthus

(2) Calyx without basal scales

(a) Calyx pyramidal, the angles winged in fruit

Vaccaria

CARYOPHYLLACEAE

- (b) Calyx oblong or bell shaped
 - x. Calyx oblong; flowers large
 - y. Calyx bell-shaped; flowers tiny

b. Styles 3-5

- (1) Styles 3
- (2) Styles 4-5

2. Sepals not united

- a. Styles 3-4
- b. Styles 5

Lychnis
Stellaria

Silene
Lychnis

Silene
Carnation

Dianthus—Pink, Carnation (Gr. *dio-*, of Jupiter, *anthos*, flower)

- 1. Flowers in a flat-topped cluster; petals toothed

D. barbatus—pinkish
lanceolate

- 2. Flowers single or but 2-3 in a cluster

D. plumbeus—lanceolate pink

- a. Petals cut-fringed

D. caryophyllea—young
twins, crimson pink

- b. Petals merely toothed

D. deltoides—mauve
pink

- (1) Flowers 3-5 cm. wide, usually double

- (2) Flowers 1-2 cm. wide, single

D. barbatus

Vaccaria—Vaccaria, Cow Pink (Lat. *vaccia*, cow; of doubtful application)

Leaves lanceolate, clasping; flowers pink

S. officinalis

Saponaria—Bouncing Bet, Soapwort (Lat. *sapo*, soap, from the soapy juice)

Leaves ovate to lanceolate; flowers pinkish

Gypsophila—Gypsophila (Gr. *gypsos*, chalk, *philos*, loving)

- 1. Stems 3 dm. high, annual; flowers 6-8 mm. wide

G. paniculata

- 2. Stems 6-10 dm. high, perennial; flowers 2-3 mm. wide

G. perfoliata

Silene—Catchfly, Campion

(Probably from Gr. *statos*, salvia, from the sticky stems)

1. Plant more or less sticky

S. viscaria

- a. Plant very sticky and hairy; night-flowering

S. noctiflora

- b. Plant sticky near the joints, not hairy; day-flowering

S. arvensis

- (1) Leaves lance-linear; flowers small, panicled

S. arvensis

- (2) Leaves lance-ovate, glaucous; flowers showy in cymes, pink

S. pendula

- 2. Plant not sticky; calyx bladdery; petals white

S. alba

Lychnis—Corn-cockle, Ragged Robin

(Gr. *lychnos*, lamp, from the use of one species for lighting)

- 1. Sepal lobes long and leaf-like

L. galeata

- 2. Sepal lobes not leaf-like

L. coronaria

- a. Plant white-cottony

L. diffusa

- b. Plant not white-cottony

L. galeata

- (1) Petals heart-shaped

L. galeata

- (2) Petals deeply lobed

L. coronaria

- (a) Petals 2-lobed

L. coronaria

- x. Flower red, perfect

L. coronaria

- y. Flower white, dioecious

L. coronaria

- (b) Petals 4-lobed; flower often double

L. coronaria

Stellaria—Starwort, chickweed

(Lat. *stellaria*, star-like, from the flower)

Leaves oblong to ovate; petals 2 cleft

S. media

Cerástium—Chickweed
(Gr. *kerastion*, little horn, from the form of the pod)

Leaves ovate, soft-hairy; petals shorter than calyx *C. vulgátm*

Portulacáceae—Purslane Family
Fleshy herbs; sepals 2, rarely 5, petals 4-5, stamens 4-30, ovary 1-celled, style usually 3-cleft; flower syncarpous, apetalous, hypogynous, somewhat irregular.

Portuláca—Purslane, Moss Rose
(Lat. *portulaca*, purslane)

1. Leaves flat, wedge-shaped; flowers 5-6 mm. wide, yellow *P. olerácea*
2. Leaves round, linear; flowers 3-5 cm., many-colored *P. grandiflóra*

Mollugáceae—Carpetweed Family

Low herbs with opposite or whorled leaves; sepals 5, petals 0, stamens 3, 5 or more, ovary 3-5-celled, stigmas 3, fruit a capsule; flower syncarpous, apetalous, hypogynous, regular.

Mollúgo—Carpetweed

(Lat. *mollis*, soft, from its carpet-like nature)

Leaves spatulate, whorled; sepals white inside *M. verticilláta*

Amarantáceae—Amaranth Family

Herbs with simple leaves; sepals 5, rarely 3, petals 0, stamens 5, rarely fewer, pistil 1-celled, stigmas 2-3, fruit a utricle; flower syncarpous, apetalous, sometimes monoecious or dioecious, hypogynous, regular.

1. Leaves alternate
 - a. Bracts greenish; flowers imperfect
 - (1) Pistillate flowers with calyx *Amarantus*
 - (2) Pistillate flowers without calyx *Acnida*
 - b. Bracts colored; flowers perfect *Celosia*
2. Leaves opposite
 - a. Flower cluster a dense terminal head *Gomphrena*
 - b. Flowers in small terminal and axillary clusters
 - (1) Leaves lanceolate to spatulate; stamens 5, staminoids 5 *Telanthera*
 - (2) Leaves broad-ovate or orbicular; stamens 5 *Iresine*

Amarántus—Amaranth

(Gr. *amarantos*, unfading, from the papery bracts)

1. Flowers in dense terminal clusters
 - a. Spikes red, drooping *A. caudátus*: *prince's feather*
 - b. Spikes green, erect
 - (1) Spikes 8-16 mm. thick *A. retrofлексus*: *pigweed*
 - (2) Spikes 4-6 mm. thick *A. hýbridus*
2. Flowers in small axillary clusters
 - a. Erect, bushy; sepals 3 *A. graecizans*
 - b. Prostrate, spreading; sepals 4-5 *A. blítoides*

Acnída—Water-hemp

(Gr. *a-*, without, *knide*, nettle, the bracts not spiny)

Leaves lanceolate, entire; flowers green *A. tamariscína*

Celósia—Cockscomb

(Gr. *kelos*, burning, dry, from the color or texture of the flowers)

1. Spikes comb-like *C. cristáta*
2. Spikes plumy to cylindric *C. argéntea*

Gomphréna—Globe Amaranth, Everlasting

(Of doubtful origin and meaning)

Leaves oblong, sessile; heads round, crimson to white *G. globósa*

CHENOPODIACEAE—POLYGONACEAE

Telanthera—Telanthera

(Gr. *telos*, end, *anthera*, flower, anther, perhaps from the arrangement of the stamens)

Leaves lanceolate to spatulate, varicolored

T. amplexicaulis

Iresine—Iresine

(Gr. *eiresione*, a wreath, wound with wool, from the wreath which)

Leaves ovate or rounded, red; calyx woolly

I. hispida

Chenopodiáceae—Goosefoot Family

Herbs with simple fleshy leaves; sepals 5-6, more or less united, petals 3-5, usually 5-celled, stigmas 2-4, fruit an achene or utricle; flower syncarpous, apetalous, perianth in two whorls, hypogynous, regular.

1. Cultivated

a. Flowers perfect

(1) Leaves large, oblong-ovate

Beta

(2) Leaves small, linear

Kochia

b. Flowers dioecious

Spiraea

2. Weeds

a. Leaves flat, usually lobed

Chenopodium

b. Leaves awl-shaped, prickly pointed

Salsola

Béta—Beet, Mangel Wurzel

(Lat. *béta*, beet)

Leaves long ovate, large; root globose to conical

B. vulgaris

Kóchia—Mock Cypress

(Named for the German botanist, Kóch)

Leaves linear, ciliate, 5-8 cm. long; plant pyramidal

K. cristata

Spinácia—Spinach

(Lat. *spina*, spine, perhaps from the spines of the fruiting stalk)

Leaves ovate to deltoid; flowers dioecious, axillary

S. oleracea

Chenopódium—Goosefoot, Lambs-Quarters

(Gr. *chen*, goose, *podion*, little foot, from the shape of the leaves)

1. Leaves mealy, pale, lanceolate to ovate; edible

C. album

2. Leaves smooth, green, cordate, angle-toothed; unpleasantly scented

C. hastatum

Sálsoa—Russian Thistle

(Lat. *salsus*, salty, -*ola*, little, from its home on seashores)

Leaves awl-shaped, prickly; bracts spiny, calyx winged

S. salsola

Polygonáceae—Buckwheat Family

Herbs with entire leaves and papery sheathing stipules; sepals 4-6, united, petals 0; stamens 4-6, ovary 1-celled, stigmas 2-3, fruit an achene; flower syncarpous, perianthaceous, usually perfect, hypogynous, regular.

1. Calyx of 4-5 sepals, often petal-like

a. Leaves halberd- or arrow shaped; flowers white

Fagopyrum

b. Leaves linear to ovate; flowers greenish to pink

F. esculentum

2. Calyx of 6 sepals, usually of 2 kinds

a. Leaves rounded, 4-8 dm. wide, with edible stalks

Betula

b. Leaves oblong to arrow-shaped, small to medium

B. alba

Fagopyrum—Buckwheat

Stamens 8, styles 3; achene triangular

F. esculentum

Polygonum—Knötnet, Heartsease

(Gr. *polys*, many, *gonu*, knee, from the jointed stems)

1. Flowers single or clustered in the axils of the leaves

a. Cultivated; 2-4 m. high; leaves 2-3 dm. long

P. multiflorum (cultivated)

b. Native; less than 1 m. high

P. multiflorum (native)

(1) Low, spreading, 1-2 dm. high

ALLIONIACEAE—MALVACEAE

(2) Tall, erect, 5-10 dm. high *P. tenué*

2. Flowers in terminal clusters

a. Leaves lance-shaped to ovate

(1) Leaves dotted and sharp to the taste *P. hydroptícer: smart-weed*

(2) Leaves neither dotted nor sharp

x. Spikes nodding

(x) Leaves ovate; flowers pink; stamens 7

(y) Leaves long lanceolate; flowers flesh-colored; stamens 6

y. Spikes erect

(x) Flowers bright pink; stamens 8

(y) Flowers greenish-pink; stamens 6

(z) Flowers white

b. Leaves heart-shaped or arrow-shaped; twining or climbing

(1) Calyx winged in fruit

(2) Calyx not winged

Rúmex—Dock, Sorrel
(Lat. *rumex*, sorrel)

1. Leaves arrow-shaped, sour

2. Leaves lance-oblong, somewhat bitter

a. Leaves curled at edges; valves of flower grain-bearing

b. Leaves hardly curled; usually 1 valve grain-bearing

Rhéum—Rhubarb, Pie-plant
(Gr. *rheon*, name of a medicinal plant)

Leaves large, rounded, petiole fleshy, sour; flowers white

Allioniáceae—Four O'Clock Family

Herbs with simple leaves; sepals 5, united into a bright corolla-like tube, petals 0, stamens 3-5, ovary 1-celled, fruit 1-seeded, achene-like, enclosed in the base of the calyx; flower syncarpous, synsepalous, apetalous, apparently epigynous, usually regular.

1. Flowers many in an involucre of 5 separate bracts *Abrónia*

2. Flowers few in a 5-lobed involucre; stamens 3 *Allionia*

3. Flowers single in a 5-parted involucre; stamens 5 *Mirabilis*

Abrónia—Abronia
(Gr. *abros*, pretty, which the flowers are)

1. Stems prostrate; flowers day-blooming, rose-purple *A. umbelláta*

2. Stems ascending; flowers night-blooming, white *A. frágans*

Allónia—Wild Four O'Clock
(Named for the Italian botanist, Allioni)

1. Leaves ovate, petioled *A. nyctagínea*

2. Leaves oblong, lance-shaped or linear

a. Leaves oblong to lance-shaped, hairy *A. hirsúta*

b. Leaves linear, smooth *A. lineáris*

Mirábilis—Four O'Clock, Marvel-of-Peru
(Lat. *mirabilis*, wonderful, from the beautiful night-blooming flowers)

Leaves ovate, entire; flowers varicolored *M. jalápa*

Malvales Mallow Order
Malváceae—Mallow Family

Herbs or shrubs, with alternate, simple, often lobed leaves; sepals 5, petals 5, stamens many, united by their filaments, ovaries several to many, separate or usually united, often falling away as one-seeded fruits, or the fruit a capsule.

Gossypium—Cotton
(Name from the Arabic)

Leaves 5-lobed; flowers yellow, purple inside at base

G. herbaceum

Moráceae—Mulberry Family

Herbs with opposite or alternate lobed leaves; sepals 5, more or less united, petals 0, stamens 5, ovary 1-celled, stigmas 2, fruit an achene; flower syncarpous, synsepalous, apetalous, dioecious, hypogynous, regular.

1. Tall erect herb, leaves divided to the base into 5-11 lance-linear divisions *Cannabis*

2. Twining herb with 3-7 lobed leaves; fruit cone-like *Humulus*

Cánnabis—Hemp
(Lat. *cannabis*, hemp)

Plant 1-4 m. high; flowers green, in axillary spikes

C. sativa

Húmulus—Hop

(Lat. *humus*, ground, -*ulus*, little, perhaps from its clambering habit)

Leaves rough, ovate in outline; fruit clusters 3-8 cm. long

H. lupulus

Urticáceae—Nettle Family

Herbs with opposite or alternate leaves, sometimes with stinging hairs; sepals 3-5, sometimes united, petals 0, stamens 3-4, ovary 1-celled, stigma 1, fruit an achene; flower syncarpous, apetalous, polygamous, monoecious or dioecious, hypogynous, regular.

1. Leaves opposite

a. Armed with stinging hairs

Urtica

b. Smooth and without stinging hairs

Pilea

2. Leaves alternate, without stinging hairs

Parietaria

Urtica—Nettle

(Lat. *urtica*, nettle, from *uro*, to burn, from the stinging hairs)

1. Leaves hairy, heartshaped at base

U. dioica

2. Leaves smooth or nearly so, round at base

U. gracilis

Pilea—Richweed, Clearweed

(Lat. *pileus*, cap, from the cap-like sepal of one species)

Stems clear, 1-4 dm. high; leaves ovate, 3-ribbed

P. pumila

Parietária—Pellitory

(Lat. *parietaria*, on walls, from *paries*, wall)

Low annual herb; leaves lance-oblanceolate

P. pennsylvánica

Geraniales Geranium Order

Geraniáceae—Geranium Family

Herbs, or some shrubby, with simple lobed or compound leaves; sepals 5, petals 5, stamens 5 or 10, ovary 5-celled, stigmas 5, fruit separating at maturity into 5 achene-like parts; flower syncarpous, apopetalous, hypogynous, regular.

1. Leaves entire to palmately divided

a. Flowers regular; stamens with anthers 10

Geranium

b. Flowers somewhat irregular; stamens with anthers 7-8

Pelargonium

2. Leaves pinnate; stamens with anthers 5

Erodium

Geránium—Cranesbill

(Gr. *geranos*, crane, referring to the form of the fruit)

1. Flowers red

a. Flowers 1 cm. wide; leaves 3-parted

G. robertianum: herb

Robert

b. Flowers 2-4 cm. wide; leaves 7-parted

G. sanguíneum

2. Flowers blue or violet

G. ibéricum

3. Flowers white or pink

G. Richardsónii

OXALIDACEAE—TROPAEOLACEAE

11

Pelargónium—Geranium

(Gr. *pelargos*, stork, referring to the form of the fruit)

1. Plant trailing; leaves ivy-like, petiole attached to lower surface *P. peltatum*
2. Plant erect, not trailing
 - a. Leaves with shallow lobes, marked with a semicircular band, branches fleshy *P. leonina*
 - b. Leaves distinctly or deeply lobed, usually not zoned; branches woody
 - (1) Leaves rarely lobed to the middle, fragrant *P. discolor* (L.) Lindley
 - (2) Leaves lobed beyond the middle, often to the base, fragrant
 - (a) Lobes oblong *P. grandiflorum* (L.) Lindley
 - (b) Lobes linear *P. officinale* (L.) Lindley

Eródium—Storksbill

(Gr. *erodios*, heron, referring to the form of the fruit)

- Low, spreading; leaves pinnate, hairy; flowers pink *E. chamaedrys*

Oxalidáceae—Oxalis Family

Low, usually stemless herbs, with 3-foliate leaves and acid sap; sepals 5, petals 5, ovary 5-celled, stigmas 5, fruit a capsule; flower syncarpous, apopetalous, hypogynous, regular.

Oxalis—Oxalis, Wood-sorrel

(Gr. *oxalis*, sorrel, from *oxy*, sour, referring to the sap)

1. Native; flowers yellow, 5-10 mm. wide *O. stricta*
2. Cultivated; flowers varicolored, 10-25 mm. wide
 - a. Stems leafy; leaflets deeply notched; flowers yellow *O. strictissima*
 - b. Stems leafless; leaflets not deeply notched; flowers rose
 - (1) Leaves fleshy, 5-6 cm. wide; stem from bulbs *O. Rosea*
 - (2) Leaves thin, hairy, 3-4 cm. wide; stem from thickened rootstocks *O. stricta*

Balsamináceae—Touch-me-not Family

Herbs with simple alternate leaves; sepals 4, one of them spurred, petals apparently 2, ovary 5-celled, stigma 1, fruit a capsule which coils elastically, catching the seeds; flower syncarpous, apopetalous, hypogynous, irregular.

Impátiens—Touch-me-not, Balsam, Jewel-weed

(Lat. *impatiens*, impatient, hence touch-me-not, from the elastic pods)

1. Native; flowers pale-yellow to orange
 - a. Flowers pale yellow, with scattered reddish dots *I. pallida*
 - b. Flowers orange, densely dotted with red-brown *I. rubra*
2. Cultivated; flowers red to white, varicolored
 - a. Flower flat, red; spur long, narrow *I. rubra*
 - b. Flower cup-like, varicolored, often double; spur short, curved *I. hederifolia* (L.) Greene

Tropaeoláceae—Tropaeolum Family

Fleshy herbs, climbing with their long petioles, or more or less creeping, the leaves roundish-shaped, alternate; sepals 5, united at the base into a long spur, petals usually 5, stamens 8, ovary 3-celled, stigma 1, fruit of 3 fleshy achene-like bodies, flower syncarpous, apopetalous, hypogynous, irregular.

Tropaeolum—Tropaeolum, Nasturtium, Indian Cress

(Gr. *tropaion*, Lat. *tropaeum*, trophy, perhaps from the shield-like leaf)

1. Petals large, spreading
 - a. Leaves entire or wavy
 - (1) Leaf veins ending in points, petals narrow, pointed *T. minus*
 - (2) Leaf veins not pointed; petals broad, not pointed *T. bullae*
 - b. Leaves deeply lobed; flowers bright yellow; spur green, hidden *T. perfoliatum*
 2. Petals small, projecting from the vermilion calyx *T. speciosum*

Lináceae—Flax Family

Herbs with simple alternate entire leaves; sepals 5, petals 5, stamens 5, ovary 5-celled, styles 5, fruit a 10-celled capsule; flower syncarpous, apopetalous, hypogynous, regular.

Línium—Flax

(Gr. *linon*, Lat. *linum*, flax)

1. Flowers blue

a. Annual; sepals pointed

L. usitatissimum: common flax

b. Perennial; sepals blunt

L. perenne: blue flax

2. Flowers red

L. sanguineum: red flax

Rutáceae—Rue Family

Herbs, shrubs or trees with compound leaves, sometimes reduced to the terminal leaflet, and appearing simple; sepals 4-5, or lacking, petals 4-8, stamens 4-60, ovary 2-5-celled, styles 1-5, or 2-5 separate pistils; fruit various, capsule, samara, drupe or berry; flower apocarpous or syncarpous, apopetalous, perfect, polygamous or dioecious, hypogynous, regular.

1. Flowers greenish-yellow; leaves compound

Ruta

2. Flowers white, fragrant; leaves of one leaflet

Citrus

Rúta—Rue

(Lat. *ruta*, rue)

Bushy herb, woody at base; leaflets oblong to obovate, dotted

R. graveolens

Citrus—Orange, Lemon, Citron

(Gr. *kitron*, the citron tree)

1. Leaves 1-foliate, evergreen

C. aurantium

2. Leaves 3-foliate, deciduous

C. trifoliata

Euphorbiáceae—Spurge Family

Herbs or shrubs usually with milky juice and alternate simple leaves; sepals 3-5, somewhat united, or lacking, petals 0, or rarely 5-6, stamens 1-30, ovary 3-lobed or 3-celled, stigmas 3-6, fruit a 3-celled capsule; flower syncarpous, apetalous, monoecious, or dioecious, hypogynous. In the genus *Euphorbia*, a cup-like involucre, resembling a calyx, contains 1 pistillate and several-many staminate flowers of 1 stamen each, and frequently bears 1-4 brightly colored glands at the edge, simulating a corolla.

1. Leaves very large, 3-6 dm. wide, 7-11 cleft

Ricinus

2. Leaves not cleft

a. Calyx present

(1) Staminate flowers with 8-16 stamens and no petals

Acalypha

(2) Staminate flowers with 15-30 stamens and 5-6 petals

Codiaeum

b. Flowers tiny, many in a calyx-like involucre

Euphorbia

Rícinos—Castor-bean, Castor-oil Plant

(Lat. name of the castor bean)

Plant 1-4 m. tall; capsules spiny

R. communis

Acalýpha—Acalypha

(Gr. *akalyphe*, nettle)

1. Flowers in red spikes, 1-3 dm. long

A. hispida

2. Flower clusters small and inconspicuous

a. Greenhouse shrub with colored leaves

A. tricolor

b. Low native weed with green leaves

A. virginica

Euphórbia—Spurge

(Gr. *euphorbion*, name of a resinous plant)

1. Shrubs, often with spines

a. Smooth shrubs with the upper leaves flower-like; involucre with 1 yellow gland

E. pulcherrima: *poinsettia*

b. Spiny shrubs with green leaves; involucre with 2 red petal-like glands *E. splendens*

2. Smooth herbs

PLUMBAGINACEAE—PRIMULACEAE

a. Stems 1-2 m. tall; rhizome with 5 white petiolate glands
 (1) Upper leaves white or white margined, rounded

(2) Leaves scattered, not white and not in a rosette

b. Stems prostrate, or 1-3 dm. high

(1) Stems prostrate or spreading

(a) Leaves hairy

(b) Leaves smooth

x. Seeds wrinkled and pitted

y. Seeds strongly wrinkled, not pitted

(2) Stems erect, 2-3 dm. high; leaves serrate

Codiátem—*Codiaeum*, Crítón
 (Latinized form of the Malay name)

Shrub; leaves ovate-lanceolate, varicolored

Primulales Primrose Order

Plumbagináceae—Leadwort Family

Herbs or woody plants with entire leaves; sepals 5, united, petals 5, ~~united in two rows, numerous~~, opposite the petals, ovary 1-celled, stigmas 5, fruit a utricle; flower ~~sympetalous, cymatiform or cymose~~, sometimes apetalous, hypogynous, regular.

1. Stems leafy; corolla with a long tube

Plumbagináceae

2. Stems leafless; corolla of nearly or quite separate petals

Arenaria

Plumbágo—Leadwort

(Lat. *plumbum*, lead, application obscure)

1. Shrubby, climbing; leaves not ciliate; flowers light blue

P. capensis

2. Low bushy herb; leaves ciliate, flowers deep blue

P. galericulata

Arméria—Thrift

(Lat. form of the Celtic name)

Stems tufted, with narrow entire leaves; flowers rose

A. maritima

Primuláceae—Primrose Family

Herbs with simple leaves; sepals 5, united, petals 5, united, stamens 5, ~~opposite the petals, numerous~~, 1-celled, stigma 1, carpels 5, fruit a capsule or a pyxis; flower ~~sympetalous, cymatiform or cymose~~, usually regular.

1. Flowering stems leafless

Primuláceae

a. Flowers in an umbel, erect

Cyclamen

b. Flowers single, inverted

2. Flowering stems leafy

Primuláceae

a. Flowers yellow

Primula

b. Flowers red, blue or white

Anagallis

Primula—Primrose, Cowslip

(Lat. *primus*, spring, referring to the time of flowering)

1. Flowers pink to purple or white

Primula

a. Leaves round-ovate, lobed; calyx inflated

P. auricula

b. Leaves spatulate, not lobed; calyx not inflated

P. monelli

2. Flowers yellow to red

Primula

a. Flowers 1-2 cm. wide, drooping; corolla limb pink

P. elatior

b. Flowers 2-4 cm. wide; corolla limb flat

P. involucrata

(1) Leaves thick, 5-8 cm. long

P. involucrata

(2) Leaves thinner, 1-2 dm. long

P. elatior

(a) Flowers stemless or nearly so, among the leaves

P. elatior

(b) Flowers on leafless scapes

P. pulchella

Cyclamen—Cyclamen

(Gr. *kyklamīnos*, cyclamen, from *kyklos*, referring to the coiled flower stalk of some species)
Flowering stems leafless, from a large corm; flowers varicolored

C. pérsicum

Lysimachia—Loosestrife

(Gr. *lysimachia*, loose-strife, from its reputed medical properties)

Stems creeping; the leaves round, opposite, with single yellow flowers in the
axils

L. nummularia: money-
wort

Anagallis—Pimpernel

(Gr. name of the pimpernel, from *agallomai*, to delight)

1. Low and spreading; leaves ovate; flowers 4-6 mm. wide
2. Erect; leaves lance-linear; flowers 10-15 mm. wide

A. arvénensis
A. linifólia

Plantaginaceae—Plantain Family

Low herbs with parallel-veined leaves at the base of the flowering stems; sepals 4, united, petals 4, united, stamens 4, rarely 2, exserted in flowering, ovary 2-celled, stigma 1, hairy and thread-like, fruit a pyxis; flower syncarpous, sympetalous, hypogynous, regular.

Plantago—Plantain

(Lat. *planta*, sole, perhaps from the broad flat leaf)

1. Leaves ovate
 - a. Pod ovoid, splitting circularly near the middle
 - b. Pod oblong, splitting near the base
2. Leaves lanceolate to linear
 - a. Leaves lanceolate to oblong, 8-40 mm. wide
 - (1) Leaves lanceolate, 3-5-ribbed, 8-25 mm. wide
 - (2) Leaves oblong to spatulate, 5-9-ribbed, 15-40 mm. wide
 - b. Leaves linear, 3-8 mm. wide
 - (1) Leaves silky-hairy; bracts little longer than flowers
 - (2) Leaves smooth or hairy; bracts several times longer than flowers

P. májor
P. Rugélia

P. lanceoláta
P. eriopoda

P. Púrshii
P. aristida

Polemoniales Phlox Order

Polemoniaceae—Phlox Family

Herbs with opposite or alternate, simple or compound leaves; sepals 5, united, petals 5, united, stamens 5, ovary 3-celled, stigmas 3, fruit a capsule; flower syncarpous, sympetalous, hypogynous, regular.

1. Climber; leaves pinnate; corolla bell-shaped
2. Erect herbs; leaves simple; corolla salver-form

Cobaea
Phlox

Cobaea—Cobaea

(Named for a Mexican priest, Cobo)

Leaves ovate; flower greenish or purplish, 5-6 cm. long

C. scándens

Phlox—Phlox, Sweet William

(Gr. *phlox*, flame, from the brilliant colors)

1. Plants hairy
 - a. Perennial; blooming in May, and sparsely again in autumn
 - b. Annual; blooming in summer and autumn
2. Plants smooth, perennial

P. divaricáta
P. Drummóndi
P. paniculáta

Convolvulaceae—Morning Glory Family

Twining or trailing herbs, with simple alternate leaves, or leafless; sepals 4-5, usually united, petals 4-5, united, stamens 4-5, ovary 2-4-celled, stigmas 2-3, fruit a capsule; flower syncarpous, sympetalous, hypogynous, regular.

1. Stems leafy, green; flowers large
 - a. Stigma capitate, somewhat lobed
 - (1) Leaves pinnately parted; corolla salver-form

Quamoclit

SOLANACEAE

15

(2) Leaves not pinnately parted; corolla funnel-form
 b. Stigmas 2, linear
 2. Stems leafless, orange or yellow; flowers tiny

funnel
2 linear
leafless

Quámoctli—Cypress Vine (The Mexican name)

Leaf segments linear; flowers single, red

single

Ipomóea—Morning Glory, Sweet Potato

1. Flowers opening in the morning
 a. Corolla funnel-form, 3-7 cm. wide, never scarlet yellow
 (1) Leaves cordate-ovate, entire; stem hairy
 (2) Leaves angled to deeply lobed
 (a) Plant hairy
 (b) Plant smooth
 b. Corolla salver-form, 1-2 cm. wide, scarlet yellow
 2. Flowers opening at night; corolla white, 10-15 cm. wide

T. purpurea

T. undulata

T. hederacea *white potato*

T. carnea

T. hederacea *white flower*

Convolvulus—Bindweed (Lat. *convolvō*, to twine, from the habit)

1. Corolla white to rose; weeds
 a. Calyx enclosed in 2 leafy bracts; flowers 4-5 cm. long
 b. Calyx without leafy bracts; flowers 2 cm. long
 2. Corolla blue, with white throat and yellow tube; bushy herb, cultivate

C. sepium *hedge bind*
weed

C. sepium *field bind*
weed

C. rotundifolius

Cuscuta—Dodder (Of uncertain origin and meaning)

1. Sepals separate
 a. Styles as long as the ovary
 b. Styles 2-3 times as long as the ovary
 2. Sepals united
 a. Flowers sessile
 b. Flowers stalked

C. sepiaefolia

C. glomerata

C. polygonatum

C. Grindeliae

Solanáceas—Potato Family

Herbs or shrubs, with alternate, usually strong-scented leaves; sepals 5, usually green; petals 5, yellow; ovary usually 2-celled, sometimes 3-5-celled, stigma 1, sometimes 2 lobed, from a base in capsule; flower syncarpous, sympetalous, hypogynous, regular or sometimes irregular

1. Shrub, often spiny, with green-purple flowers and red berries

Prunus

2. Herbs

a. Corolla wheel-shaped or cup-shaped, more or less flat

Physalis

(1) Calyx bladdery, inflated in fruit

Lycopersicum

(2) Calyx not bladdery

(a) Filaments much longer than the anthers

Lycopersicum

(b) Filaments not longer, usually shorter than the anthers

Lycopersicum

x. Anthers united at the tip; flower yellow

Lycopersicum

y. Anthers not united; flower not yellow, except in one spiny species

Solanum

z. Anthers not united; flower yellow, except in one spiny species

Solanum

b. Corolla tubular or funnel-form or salverform

Phaseolus

(1) Fruit spiny; flowers long tubular, solitary

Phaseolus

(2) Fruit not spiny

Phaseolus

(a) Fruit a purple berry; corolla long bell shaped

Phaseolus

(b) Fruit a capsule

Phaseolus

x. Calyx enclosing the pod

Mesembryanthemum

(x) Calyx with a spreading netlike border in fruit

Nicotiana

(y) Calyx bell-shaped, without a spreading border

Petunia

y. Calyx not enclosing the pod

SOLANACEAE

Lýcium—Matrimony Vine
(Named from the country Lycia)

Leaves spatulate, entire; branches trailing

L. vulgáre

Phýsalis—Ground Cherry

(Gr. *physális*, bubble, from the inflated calyx)

1. Fruiting calyx red

*P. alkekéngi: straw-
berry, tomato*

2. Fruiting calyx not red

P. heterophýlla

a. Plant glandular, hairy

b. Plant smooth or sparsely hairy

(1) Corolla dull yellow with brown center; berry yellowish

P. lanceoláta

(2) Corolla bright yellow with purple center; berry purple

P. ixocárpa

Cápsicum—Red Pepper, Cayenne Pepper, Green Pepper

(Gr. *kapsis*, gulping down, perhaps from its pungency)

1. Annual or biennial; fruit oblong-linear to round

C. ánnuum

2. Perennial; fruit oblong-pointed as a rule

C. frutéscens

Lycopérsicum—Tomato

(Gr. *lykós*, wolf, *périskon*, peach)

Leaves pinnate, hairy, strong-scented; flowers yellow; fruit red or yellow *L. esculéntum*

Solánum—Potato, Egg-plant, Nightshade

(Lat. *sola-*, solace, perhaps from the use as food or medicine)

1. Plant prickly

S. rostránum: buffalo bur

a. Prickly calyx enclosing the dry fruit

b. Calyx less prickly, or smooth, not enclosing the berry

*S. carolinénsis: horse
nettle*

(1) Fruit globose, orange-yellow, 1-2 cm. wide; native

S. melongéna: egg-plant

2. Plant not prickly

a. Shrubby house-plant with white flowers and red berries

*S. pseudo-cápsicum:
Jerusalem cherry*

b. Plant not shrubby

(1) Leaves lobed or compound

(a) More or less climbing, many of the leaves 3-lobed; flowers
purple; berry red

S. dulcamára: bittersweet

(b) Erect or spreading; berry green

x. Leaves pinnate; cultivated for its tubers

S. tuberósum: potato

y. Leaves pinnatifid; native

S. triflórum

(2) Leaves not lobed, nearly entire, fruit black, edible; wild, and cul-
tivated as the "wonderberry"

S. nígrum: nightshade

Datúra—Thorn-apple, Stramonium, Jimson Weed

(Name from the Arabic)

1. Flower white

D. stramónium

a. Leaves lobed

b. Leaves entire or merely wavy

D. cornucópia

(1) Plant smooth; corolla 5-toothed

D. metelóides

(2) Plant viscid, hairy; corolla 10-toothed

D. tátula

Átropa—Belladonna

(Named for Atropos, one of the Fates)

Leaves ovate, entire; corolla and berry purple

A. belladónna

Hyoscýamus—Henbane

(Gr. *hyos*, hog, *kyamos*, bean)

Leaves clasping, toothed, clammy; flowers yellowish

H. níger

Nicotiana—Nicotiana. Tobacco

(Named for Nicot, an early 16th century Frenchman)

1. Flowers white, at least within, opening at nightfall
2. Flowers usually some shade of red, day-blooming
 - a. Leaves sessile, decurrent; flowers red or purple
 - b. Leaves stalked; flowers yellowish or greenish

Petunia—Petunia

(Native name of the species)

Leaves ovate, hairy, nearly sessile; flowers varicolored, often double

N. America

N. America

N. America

N. America

N. America

Boraginaceae—Borage Family

Herbs with simple alternate leaves, often rough-hairy; ~~sepal 5, united, petal 5, united, stamens 5, ovary 4-celled or deeply 4-lobed, separating at maturity into 4 nutlets, styles 1 to 2~~; fruit syncarpous, sympetalous, hypogynous, regular, or irregular in one genus.

1. Ovary divided into 4 parts
 - a. Corolla regular
 - (1) Corolla wheel-shaped, tube lacking
 - (2) Corolla more or less tubular, with scale-like appendages in the throat
 - (a) Flowers blue to purple
 - x. Nutlets bur-like, with hooked prickles
 - y. Nutlets smooth
 - (b) Flowers yellowish white
 - b. Corolla irregular
 2. Ovary entire, but the ripe fruit separating into 2 or 4 nutlets

Europe

Cynoglossum

Armenia

Siberia

Europe

Europe

Borago—Borage

(Supposed to be from *corago*, because of repellent virtue as a antidote)

Leaves oval to lance-oblong, bristly; flowers blue to purple

Europe

Cynoglóssum—Houndstongue

(Gr. *kynos*, dog, *glossa*, tongue)

Leaves spatulate to lance-oblong, downy, flowers red purple

Europe

Anchusa—Alkanet

(Gr. *enclusa*, alkanet, because the root yields a red dye)

Leaves lance-ovate, rough; flowers large

Europe

Symphytum—Comfrey

(Gr. *sympyton*, comfrey, from *sympho*, to unite, named from its healing properties)
Leaves lance-oblong, soft-hairy, decurrent

Europe

Heliotropium—Heliotrope

(Gr. *heliotropion*, a plant which turns toward the sun)

1. Corolla tube hardly longer than the calyx
2. Corolla tube twice longer than the calyx

Europe

Europe

Gentianales Gentian Order

Gentianaceae—Gentian Family

Herbs with opposite simple entire sessile leaves; ~~sepals 4-5, united, petals 4-5, united, stamens 4-5, alternate with the corolla lobes, ovary 1-celled, with 2 parietal placentae, style 1 to 2, fruit a capsule; flower syncarpous, sympetalous, hypogynous, irregular~~
Leaves opposite, simple, entire, sessile; flowers ~~solitary~~ in a ~~large~~ raceme

Europe

Europe

Gentiana—Gentian

(Named for King Gentian of legend)

1. Corolla lobes fringed; flower open
2. Corolla lobes not fringed; flower closed

Europe, especially in the Mediterranean region

Europe, especially in the Mediterranean region

Fráscea—Fraseria

(Named for the botanist Fraser)

Corolla 4-parted, with 4 fringed nectaries

F. speciosa

Apocynáceas—Dogbane Family

Herbs or shrubs, usually with milky juice, and with opposite simple leaves; sepals 5, united, petals 5, united, stamens 5, ovaries 2, the styles or at least the stigmas united, fruit a follicle; flower apocarpous, sympetalous, hypogynous, regular.

1. Shrubs; leaves somewhat whorled, leathery
2. Herbs, or woody at base; leaves opposite

*Nerium**Vinca*

Nérium—Oleander, Rose Bay

(Gr. *nerion*, oleander)

Flowers rose to white, in terminal clusters

N. oleander

Víncia—Periwinkle

(Lat. *vincio*, to bind, from the cord-like stems)

Leaves oblong, veiny, shining; flowers salverform, rose to white

V. rosea

Scrophulariales Snapdragon Order

Scrophulariáceas—Snapdragon Family

Herbs with mostly simple leaves; sepals united, the calyx often 2-lipped, petals usually 5, and united into an irregular or 2-lipped corolla, rarely 4 and regular, stamens 4, rarely 2 or 5, ovary 2-celled, stigma 1, entire or 2-lobed, fruit a capsule; flower syncarpous, sympetalous, hypogynous, typically irregular.

1. Stamens, or the anther-bearing ones, only 2

- a. Corolla 2-lipped

- (1) Leaves opposite; both corolla lips sac-like
- (2) Leaves alternate; one lip slightly sac-like

- b. Corolla not 2-lipped, often nearly regular

*Calceolaria**Schizanthus**Veronica*

2. Anther-bearing stamens 4

- a. Fifth stamen present as a sterile filament

- (1) Corolla strongly 2-lipped
 - (a) Corolla wide open; sterile filament conspicuous
 - (b) Corolla nearly closed; sterile filament shorter than others
- (2) Corolla not 2-lipped, somewhat irregular

- b. Fifth stamen entirely lacking

- (1) Base of the corolla with a spur or sack
 - (a) Corolla spurred
 - (b) Corolla with a sack at base
- (2) Corolla without spur or sack
 - (a) Corolla salverform, not 2-lipped
 - (b) Corolla more or less tubular and 2-lipped
 - x. Climbing by coiling leaf stalks
 - y. Not climbing
 - (x) Leaves alternate; flowers terminal
 - (y) Leaves opposite; flowers axillary
 - m. Calyx 2-lipped; corolla 4-lobed
 - n. Calyx 5-toothed; corolla 2-lipped

*Pentstemon**Chelone**Salpiglossis*

- (1) Base of the corolla with a spur or sack
 - (a) Corolla spurred
 - (b) Corolla with a sack at base
- (2) Corolla without spur or sack
 - (a) Corolla salverform, not 2-lipped
 - (b) Corolla more or less tubular and 2-lipped
 - x. Climbing by coiling leaf stalks
 - y. Not climbing
 - (x) Leaves alternate; flowers terminal
 - (y) Leaves opposite; flowers axillary
 - m. Calyx 2-lipped; corolla 4-lobed
 - n. Calyx 5-toothed; corolla 2-lipped

*Linaria**Antirrhinum**Browallia**Maurandia**Digitalis*

3. Stamens with anthers 5, corolla wheel-shaped

*Torenia**Mimulus**Verbascum*

Calceolária—Calceolaria

(Lat. *calceolus*, slipper, from the form of the flower)

1. Leaves simple; flower yellow, with red-orange dots

C. pendula

2. Leaves pinnate; flower yellow

C. pinndata

Schizánthus—Butterfly Flower

(Gr. *schizos*, split, *anthos*, flower, from the lobed petals)

Petals much lobed, the lower sack-like, varicolored

S. pinndata

Veronica—Speedwell
(Of doubtful origin and meaning)

1. Leaves in whorls; flowers white to blue, in terminal spikes *V. erigentea*
2. Leaves opposite or alternate; flowers blue, axillary *V. Buergeri*

Pentstemon—Pentstemon, Beard Tongue

(Gr. *pente*, five, *stemon*, stamen, from the sterile stamens)

1. Flowers pink to red, narrow; leaves linear to lanceolate *P. barbata*
2. Flowers white; leaves ovate to oblong *P. dasyantha*

Chelone—Turtle-head, Balmoney

(Gr. *chelone*, turtle, from the form of the corolla)

Leaves lanceolate to oblong; flowers white to pale purple *C. glabra*

Salpiglossis—Garden Trumpet

(Gr. *salpingos*, trumpet, *glossa*, tongue; incorrectly formed)

Leaves lanceolate, entire to pinnatifid; flowers varicolored *S. sinuata*

Linaria—Butter-and-Eggs

(Lat. *linum*, flax, from the resemblance)

1. Plant creeping; leaves round; flowers blue *L. gmelinii* Knobl.
2. Plant erect; leaves linear or lance-linear
a. Flowers blue
b. Flowers yellow *L. alpina*
L. vulgaris L. (yellow and eggs)

Antirrhinum—Snapdragon

(Gr. *anti-*, like, *rhinos*, nose, from the form of the flower)

1. Plant erect; leaves linear to oblong
a. Flowers 3-5 cm. long; leaves lanceolate to oblong *A. majalis*
b. Flowers 1-2 cm. long; leaves linear *A. pseudomajalis*
2. Plant climbing by coiling petioles; leaves halberd-like *A. major*

Browallia—Browallia

(Named for a Swedish botanist, Browall)

Leaves ovate, cuneate or rounded; flowers varicolored *B. glabra*

Maurandia—Maurandia

(Named for the botanist Maurandy)

Stem and leaves smooth; corolla purple *M. barbata*

Digitalis—Foxglove

(Lat. *digitalis*, finger-like, from the form of the petioles)

1. Flowers yellowish *D. lanata*
2. Flowers purple *D. purpurea*

Torenia—Torenia

(Named for the Swedish botanist, Toren)

1. Corolla yellow *T. glabra*
2. Corolla blue to white
a. Corolla 4-lobed *T. fournieri*
b. Corolla 2-lipped *T. fournieri*

Mimulus—Monkey Flower

(Gr. *mimos*, Lat. *mimus*, comic actor from the grinning mouth)

1. Flowers yellow; cultivated
a. Creeping, hairy, musk-scented *M. moschata*
b. Erect, smooth *M. luteus*
2. Flowers red-purple; native *M. luteus*

Verbáscum—Mullein
(Lat. *verbascum*, mullein)

- 1. Leaves woolly, white to gray
 - a. Leaves densely woolly, decurrent on the stem
 - b. Leaves thinly woolly, not decurrent
- 2. Leaves smooth, green

V. thapsus
V. lychnitis
V. blattaria

Acantháceae—Acanthus Family

Herbs with opposite simple leaves; sepals 5, united, petals 5, united, stamens 4 or 2, ovary 2-celled, stigmas 1 or 2, fruit a capsule; flower syncarpous, sympetalous, hypogynous, usually irregular.

- 1. Leaves pinnatifid; corolla of one 3-lobed lip
- 2. Leaves arrow-shaped; corolla 5-lobed, nearly regular

Acanthus
Thunbergia

Acánthus—Acanthus

(Gr. *akantha*, prickle, from the prickly leaves)

- 1. Leaves spiny, deeply cut
- 2. Leaves nearly or quite smooth, lobed

A. spinosus
A. mollis

Thunbergia—Thunbergia

More or less climbing; flowers varicolored

T. alata

Gesneráceae—Gesnera Family

Herbs with simple leaves; sepals 5, united, petals 5, united, ovary 1-celled with 2 parietal placentae, stigma entire or 2-lobed, fruit a capsule; flower syncarpous, sympetalous, hypogynous, regular or irregular.

- 1. Stems leafless
 - a. Stamens 4
 - b. Stamens, at least the anther-bearing, 2
- 2. Stems leafy

Sinningia
Streptocarpus
Achimenes

Sinningia—Gloxinia

(Named for the botanist, Sinning)

Leaves spatulate to rounded; flowers varicolored

S. speciosa

Streptocárpus—Streptocarpus

(Gr. *streptos*, twisted, *kárpōs*, fruit, from the twisted pods)

- 1. Leaf single, basal; flowers several on each scape
- 2. Leaves several to many; flowers usually single

S. polyántha
S. Rétzii

Achiménes—Achimenes

(Gr. *acheimenes*, not disturbed by winter, i. e., blooming late)

- 1. Flowers violet blue
- 2. Flowers reddish

A. longiflóra
A. grandiflóra

Bignoniáceae—Catalpa Family

Herbs, or woody plants with simple or compound leaves, sepals united, petals 5, united mostly into a 2-lipped corolla, stamens 4 or 2, ovary 1-4-celled, stigma 2-lobed; fruit a capsule or silique; flower syncarpous, sympetalous, hypogynous, irregular.

- 1. Leaves pinnate; flowers on a scape, rose
- 2. Leaves simple; flowers on the leafy stem, whitish

Incarvillea
Martynia

Incarvillea—Incarvillea

(Named for Incarville, a French missionary)

- 1. Leaflets entire or toothed
 - a. Leaflets toothed or nearly so
 - b. Leaflets toothed throughout
- 2. Leaflets cleft

I. ólgae
I. Delaváyi
I. variabilis

Martýnia—Unicorn Plant

(Named for the English botanist, Martyn)

Leaves heart-shaped, entire, hairy; flowers whitish to lilac or yellowish

M. proboscidea

Lamiales Mint Order

Verbenaceae—Verbena Family

Herbs or shrubs with simple opposite or whorled leaves; annuals, annuals, perennials, or biennials; flowers 2-lipped, or dry and then usually separating into 4 nutlets; flowers axillary, terminal, or whorled, irregular.

1. Shrubs; corolla 4-lobed
2. Herbs; corolla 5-lobed or 2-lipped
 - a. Calyx 2-lipped, with spiny teeth; corolla 2-lipped, native
 - b. Calyx not 2-lipped and spiny; corolla irregularly 5-lobed

Lantana—Lantana
(Of uncertain origin and meaning)

Flowers yellow, then orange and finally reddish; leaves ovate

Phryma—Lopseed
(Of uncertain origin and meaning)

Leaves ovate; flowers small, in a loose spike; fruits spiny

Verbena—Verbena, Verbain
(Lat. *verbena*, a sacred plant)

1. Native weeds
 - a. Plant spreading; bracts longer than the flowers
 - b. Plant tall, erect; bracts shorter than the flowers
 - (1) Flowers white; spike very narrow
 - (2) Flowers blue; spike broader
 - (a) Leaves lanceolate, somewhat hairy
 - (b) Leaves ovate, very hairy
 2. Garden plants, extensively hybridized and known as

Lamiaceae—Mint Family

Herbs, mostly aromatic, usually with opposite leaves and 4 angled stems; usually 5-lobed, petals 5, united, usually irregular, stamens 4 or 2, ovary 4-lobed, i.e., the two often divided.

1. Corolla regular or nearly so
 - a. Calyx 5-toothed; corolla 4-cleft
 - b. Calyx 2-lipped in fruit; corolla 5-cleft
2. Corolla irregular, usually 2-lipped
 - a. Stamens 2
 - (1) Herbs
 - (a) Flowers in racemes or spikes; calyx 2-lipped
 - (b) Flowers in heads; calyx 5-toothed
 - (2) Shrubs
 - b. Stamens 4
 - (1) Calyx 2-lipped
 - (a) Calyx cup-shaped, lips entire
 - (b) Calyx lips toothed
 - x. Flower bracts large, round, purplish
 - y. Flower bracts neither round nor purple
 - (x) Corolla apparently with one long lip
 - (y) Corolla clearly 2-lipped
 - m. Corolla yellowish to white
 - n. Corolla purple or blue
 - (2) Calyx more or less equally 4-5-toothed, rarely 10-toothed
 - (a) Calyx 10-toothed; leaves white woolly
 - (b) Calyx 4-5-toothed
 - x. Upper tooth much larger than the others
 - (x) Corolla with upper lip 4-lobed, lower 1-lobed

m. Leaves green; filaments separate	<i>Ocimum</i>
n. Leaves colored; filaments united	<i>Coleus</i>
(y) Corolla with upper lip 2-lobed, lower 3-lobed	<i>Dracocephalum</i>
m. Native herb; leaves lanceolate to ovate	<i>Lavandula</i>
n. Hoary undershrub, cultivated; leaves lance-linear	
y. Teeth equal in size or nearly so	
(x) Calyx swollen in fruit	<i>Physostegia</i>
(y) Calyx not swollen	
m. Calyx teeth rigid, spiny	<i>Leonurus</i>
n. Calyx teeth not spiny	
(m) Flowers in heads	<i>Koellia</i>
(n) Flowers not in heads	
r. Stamens projecting, at least 2 of them	
(r) Leaves linear to oblong; bracts green	<i>Hyssopus</i>
(s) Leaves ovate; bracts purple	<i>Origanum</i>
s. Stamens not projecting	
(r) Lower or outer stamens shorter than the inner	
h. Anther halves parallel	<i>Lopanthus</i>
i. Anther halves spreading	<i>Nepeta</i>
(s) Lower or outer stamens longer than the inner	
h. Upper lip of the corolla flat, erect	<i>Satureia</i>
i. Upper lip hooded or concave	
(h) Calyx 5-nerved	<i>Lamium</i>
(i) Calyx 10-nerved	<i>Stachys</i>

Méntha—Mint

(Gr. *mintha*, Lat. *mentha*, mint)

1. Leaves sessile	
2. Leaves petioled	
a. Flowers mostly in terminal spikes	
(1) Leaves lanceolate	
(2) Leaves ovate	
b. Flowers in axillary whorls	

M. spicata: spearmint*M. piperita*: peppermint
M. citrata: bergamot
mint
M. canadensis: wild mint

Perilla—Perilla

(From the native name in India)

Leaves ovate, bronze-purple, fragrant; flowers rose or whitish

P. crispa

Sálvia—Sage

(Lat. from *salvus*, well, referring to its medical use)

1. Flowers blue	
a. Tall; leaves green; flowers large, 2-3 cm.	
b. Low; leaves white-woolly; flowers 1-2 cm.	
2. Flowers red	
a. Floral leaves and calyx green	
b. Floral leaves and calyx red	

S. azúrea: blue sage
S. officinalis: garden sage
S. fulgens
S. splendens: red sage

Monárdia—Balm, Horse-mint

(Named for Monardez, a Spanish writer on medical plants)

1. Corolla red	
2. Corolla rose-purple to white	

M. didyma: Oswego tea
M. fistulosa: wild bergamot

Rosmarínus—Rosemary

(Lat. *ros*, dew, *marinus*, of the sea)

Shrub with evergreen linear leaves, hoary beneath; flowers blue

R. officinalis

LAMIACEAE

Scutellaria—Skullcap

(Lat. *scutella*, flat dish, referring to the calyx)

1. Leaves sessile; flowers 2-3 cm. long, solitary

2. Leaves petioled; flowers 6-8 mm. long, in racemes

Prunella—Heal-all, Self-heal

(of uncertain origin)

Leaves oblong to ovate; bracts round; flowers blue-purple

Teucrium—Germander

(Gr. *teucron*, germander, perhaps named for Teucer, field king of Troy)

Leaves lance-ovate, serrate; flowers purplish

Melissa—Bee-balm

(Gr. *melissa*, bee, referring to its attraction for bees)

Leaves ovate, crenate; flowers yellowish or white

Thymus—Thyme

(Gr. *thymon*, thyme, from its fragrance)

1. Creeping, leaves petioled; flowers axillary

2. Erect; leaves sessile; flowers in terminal spikes

Marrubium—Horehound

(Lat. name from the Hebrew word for bitter)

Leaves ovate-rounded, crenate; flowers small, white

Dracocéphalum—Dragon-head

(Gr. *drakon*, dragon, *kephale*, head)

Leaves lanceolate to oblong, toothed; flowers light blue

Ocimum—Sweet Basil

(Gr. *ocimon*, an aromatic plant, basil)

Leaves ovate, toothed; flowers bluish-white

Cóleus—Foliage-plant

(Gr. *koleos*, sheath, referring to the sheath-like leaves)

Leaves ovate, toothed, colored; flowers blue

Lavándula—Lavender

(Lat. *lavandus*, for washing, referring to its use in lavender water)

Leaves lance-linear; flowers blue

Physostégia—Dragon-head

(Gr. *physa*, bladder, *stége*, roof, referring to the trumpet-shaped corolla)

1. Corolla pale purple or rose, 2-3 cm. long

2. Corolla purple, 1-1½ cm. long

Leonurus—Motherwort

(Gr. *leon*, lion, *oura*, tail, of no evident application)

Leaves palmately cleft; calyx spiny; corolla pink to white

Koellia—Mountain Mint

(Named for a German botanist Koelle of the 19th century)

Leaves lance-linear, sessile; flowers white in round heads

Hyssopus—Hyssop

(Gr. *hyssopos*, an aromatic plant)

Leaves lance-linear, entire; flowers blue

Origanum—Marjoram

(Gr. name of a plant resembling marjoram)

1. Leaves broadly ovate; bracts colored, calyx of 5 equal teeth

2. Leaves oblong-ovate; bracts green; calyx 2-lipped

ROSACEAE

Lopánthus—Giant Hyssop
(Gr. *lophos*, crest, *anthos*, flower)

1. Corolla yellowish; calyx nearly equalling corolla *L. nepetoídes*
2. Corolla blue or purple
 - a. Leaves white beneath, anise scented *L. anisáthus*
 - b. Leaves green beneath, not anise-scented *L. scrophularifólius*

Népeta—Catnip, Gill
(Lat. name of the catnip)

1. Erect; leaves oblong; flowers whitish *N. catária*
2. Creeping; leaves round; flowers blue *N. glechóma*

Saturéia—Savory
(Lat. name of the savory, Gr. *satyrion*)

Leaves oblong-linear; flowers small, purplish *S. horténsis*

Lámium—Dead-nettle, Henbit

(Gr. *lamia*, throat, referring to the gaping corolla)

1. Corolla red or purplish; upper leaves sessile *L. amplexicáule*
2. Corolla white; leaves petioled *L. álbum*

Stáchys—Hedge Nettle

(Gr. *stachys*, spike, referring to the flower cluster)

1. Leaves sessile or short-petioled *S. palústris*
2. Leaves distinctly petioled *S. áspera*

Rosales Rose Order

Rosáceae—Rose Family

Herbs or woody plants, with alternate leaves; sepals usually 5, sometimes 4 or apparently twice the number, petals usually 5, stamens 4-many, pistils separate, 1-many, or 2-5, united, fruit various; flower apocarpous or syncarpous, apopetalous, or apetalous, perigynous, regular.

1. Flowers large, 3-many cm. wide; shrubs with pinnate leaves *Rosa*
2. Flowers small to medium, 1-3 cm. wide

a. Petals present

- (1) Flowers yellow to red
 - (a) Styles long and hairy, persisting on the fruit *Geum*
 - (b) Styles short, inconspicuous *Potentilla*
- (2) Flowers white to pink
 - (a) Herbs; clusters few-flowered *Fragaria*
 - (b) Shrubs; clusters many-flowered *Spiraea*

b. Petals absent; calyx lobes petal-like *Poterium*

Rosa—Rose

(Lat. *rosa*, Gr. *rhodon*, rose)

Leaflets thick, wrinkled; stem densely prickly *R. rúgosa*

Gréum—Avens

(Gr. *geuma*, taste, perhaps from the root)

Stem leaves 3-parted; flowers panicled, red *G. coccíneum*

Potentilla—Potentilla, Cinqfoil, Five-finger
(Lat. *potens*, powerful, from reputed medical properties)

1. Shrubs; leaflets 5-7, hairy; flowers 1½-3 cm. wide *P. fruticósa*
2. Herbs; flowers ½-1½ cm. wide
 - a. Leaflets 5, silvery white below; plants spreading *P. argéntea*
 - b. Leaflets 3, hairy on both sides, not silvery; erect *P. monspeliensis norwégi-ica*

Fragária—Strawberry
(Lat. *fragum*, strawberry)

Leaves thick, hairy; flower stalks shorter than the leaves *F. virginiana*

FABACEAE

Spiráea—*Spiraea*, Meadow-sweet, Bridal Wreath
(Gr. *spíraea*, meadow-sweet, perhaps from the twisted stems)

1. Flowers white, in simple umbels

S. dumosa

2. Flowers pink

- a. Flowers in umbels or corymbs
- b. Flowers in dense panicles

S. formosa
S. Dasydora

Potérium—*Burnet*

(Gr. *poterion*, a drinking cup, from the form of the leaf)

Leaves of 7-19 small leaflets; flowers green to purplish, in heads

P. sagittaria

Fabáceae—Pea Family

Herbs or woody plants, with alternate usually compound leaves, segms. 4-6, mostly ovate, petals typically 5, and of three different forms, standard, wings and keel, but in some cases more or less similar, stamens 5-many, pistil single, simple, fruit typically a legume sometimes somewhat like a flower, apocarpous, apopetalous, hypogynous, irregular.

1. Leaves compound

a. Leaflets digitate or apparently so, 2-15

(1) Leaflets 2

Lathyrus

(2) Leaflets more than 3

Lupinus

(3) Leaflets 3

(a) Leaflets toothed

x. Flowers in slender racemes

Mesobius

y. Flowers in spikes or heads

(x) Flowers blue or yellow

Medicago

(y) Flowers red or white

Trifolium

(b) Leaflets entire

x. Fruit a legume; mostly climbers

Pisum

(x) Calyx 5-toothed; cultivated

Fabáea

(y) Calyx 4-toothed; native

y. Fruit a loment or achene; erect herbs

Lathyrus

(x) Fruit a 1-seeded achene

Dicentra

(y) Fruit a loment with 2-several seeds

b. Leaflets pinnate, 4-many, or when fewer, tendril bearing

(1) Climbers or twiners, usually with tendrils

Lathyrus

(a) Leaves odd-pinnate; flowers brown-purple

(b) Leaves even-pinnate, tendril-bearing as a rule

Lathyrus

x. Style bearded down one face

Lathyrus

y. Style bearded at tip only

(2) Erect herbs; tendrils mere remnants when present

Lathyrus

(a) Leaflets 4; flowers yellow; cultivated

Mesobius

(b) Leaflets 5 or more

x. Leaves sensitive, closing and drooping at touch

Mimosa

y. Leaves not sensitive to touch

(x) Flowers pea-like

Mimosa

m. Leaflets 2-14

Faba

n. Leaflets 15-21

Carpinus

(y) Flowers not pea-like

m. Flowers tiny, 4-6 mm. wide, in dense clusters

Polygalacanthia

(m) Stamens 5

Dalca

(n) Stamens 10

Cassia

n. Flowers 2-3 cm. wide, yellow, single

Glycine

2. Leaves simple; flowers yellow; shrubby

Lupinus—*Lupine*

(Lat. *lupus*, wolf)

Leaflets 13-15, lanceolate; flowers blue to white

L. polyphyllus

Meliótus—Sweet Clover

(Gr. *meli*, honey, *lotus*, clover, from the fragrant leaves)

1. Flowers white; stem 1-3 m. tall; leaflets notched at tip	<i>M. álba</i>
2. Flowers yellow; stem 1½-1 m. tall; leaflets blunt	<i>M. officinalis</i>
Medicágo—Alfalfa, Nonesuch (Gr. <i>medike</i> , alfalfa, Lat. <i>-ago</i> , like)	
1. Flowers blue; perennial	<i>M. sativa</i> : <i>alfalfa</i> , <i>lucerne</i>
2. Flowers yellow; annual	
a. Leaves oval to rounded; pod smooth, black, 1-seeded	<i>M. lupulina</i> : <i>nonesuch</i>
b. Leaves cuneate, spotted; pod spiny, coiled, several seeded	<i>M. maculata</i> : <i>spotted medic</i>

Trifólium—Clover, Alsike
(Lat. *tri-*, three, *folium*, leaf)

1. Heads round or nearly so	<i>T. pratense</i> : <i>red c.</i>
a. Flowers red, rarely white	
b. Flowers white to pinkish	
(1) Stems erect or ascending, 3-6 dm. high	<i>T. híbridum</i> : <i>alsike</i>
(2) Stems creeping, 1-2 dm. high	<i>T. répens</i> : <i>white c.</i>
2. Heads oblong to cylindric	
a. Heads 3-6 cm. long; red corolla exceeding calyx	<i>T. incarnátum</i> : <i>crimson c.</i>
b. Heads 1-2 cm. long; whitish corolla shorter than calyx	<i>T. arvénse</i> : <i>rabbit-foot</i>

Phaséolus—Bean

(Gr. *phaselus*, string-bean)

1. Flower clusters longer than the leaf; flowers usually red	<i>P. multiflórus</i> : <i>scarlet runner</i>
2. Flower clusters shorter than the leaf; flowers not red	
a. Flowers greenish-white; pod broad; seeds flat	<i>P. lunátus</i> : <i>lima bean</i>
b. Flowers white to purplish; pod narrow; seeds swollen	
(1) Twining	<i>P. vulgáris</i> : <i>common b.</i> <i>kidney b.</i>
(2) Bushy, not twining	<i>P. nánus</i> : <i>bush b.</i>

Falcáta—Wild Peanut

(Lat. *falcatus*, sickle-like, from the form of the keel)

Leaflets ovate; flowers purplish to white; pods both aerial and subterranean *F. comósula*

Lespedéza—Bush Clover

(Named for Lespedez, a Spanish governor of Florida)

1. Flowers in heads, creamy or white; native	<i>L. capitáta</i>
2. Flowers in racemes, red-purple; cultivated	<i>L. Sieboldii</i>

Desmódiuim—Tick-Trefoil, Telegraph Plant

(Gr. *desmos*, bond, chain, from the loment)

Leaflets 3; end leaflet large, lateral ones small, moving up and down *D. gyráns*

Ápios—Groundnut

(Gr. *apios*, pear, from shape of the tubers)

Flowers purple-brown, fragrant; stems from strings of starchy tubers *A. tuberósa*

Láthyrus—Sweet Pea, Everlasting Pea

(Gr. *lathyrós*, a kind of pulse)

1. Peduncles 2-4-flowered; flowers fragrant; annual	<i>L. odoráta</i>
2. Peduncles many-flowered; flowers scentless; perennial	<i>L. latifólius</i>

2. Petals united at the very base

- a. Flower in 5's
- b. Flower in 4's

Cotyledon
Bryophyllum

Sédum—Stonecrop

(Lat. *sedeo*, to sit, from the habit of growing on walls and rocks)

1. Creeping; leaves 4-6 mm. long; flowers yellow

S. ácre: wall pepper

2. Erect; leaves 2-5 cm. long; flowers pink to white

S. teléphium: live-for-ever

Cotylédon—Cotyledon

(Gr. *kotyledon*, cup, from the form of the corolla)

Leaves basal, wedge-shaped, glaucous; flowers red

C. orbiculáta

Bryophýllum—Bryophyllum

(Gr. *bryon*, bud, *phyton*, leaf, from the buds which form on the leaf)

Leaves ovate, simple or ternate; flowers large, greenish, hanging

B. calycinum

Hamamelidáceae—Witch-Hazel Family

Shrubs or trees, with simple alternate leaves; sepals 4, petals 4, stamens 8, 4 more or less imperfect, ovary 2-celled, styles 2, fruit a capsule; flower syncarpous, apopetalous, hypogynous, regular.

Hamamélis—Witch Hazel

(Gr. *hamamelis*, a kind of tree)

Tall shrub with obovate leaves; flowers yellow, appearing in autumn just before leaf-fall

H. virginica

Sapindales Maple Order

Sapindáceae—Soapberry Family

Woody plants or climbing herbs, mostly with compound leaves; in the following genus, the sepals are 4, petals 4, stamens 8, ovary 3-celled, styles 3, fruit a bladdery 3-lobed pod; flower syncarpous, apopetalous, hypogynous, nearly regular.

Cardiospérnum—Balloon-Vine, Heart-Seed

(Gr. *kardia*, heart, *sperma*, seed, from the heart-shaped seed scale)

Leaves 2-ternate, alternate; flower clusters with hook-like tendrils; flowers white; seed with a heart-shaped scale

C. halicábum

Lythrales Loosestrife Order

Lythráceae—Loosestrife Family

Herbs with simple opposite entire leaves; sepals 5-7, united into a tube enclosing the ovary, petals 4-7 or none, stamens 4-14, ovary 1-4-celled, stigma 1, sometimes 2-lobed, fruit a capsule; flower syncarpous, apopetalous, rarely apetalous, hypogynous, regular, or somewhat irregular.

1. Petals present; calyx not spurred

Lythrum

2. Petals absent; calyx spurred at base

Cuphea

Lýthrum—Loosestrife

(Gr. *lythron*, blood, from the color)

Leaves lanceolate; flowers with 6-7 pink petals

L. salicária

Cúphea—Cigar Plant

(Gr. *kuphos*, hump, from the spur)

Leaves lance-ovate, glossy; flowers bright red

C. platycéntra

Onagráceae—Evening-Primrose Family

Herbs or shrubs with simple leaves; sepals 2-6, united and grown to the ovary, petals 2-6, mostly 4, stamens 2-12, mostly 8, ovary usually 2-4 celled, stigma one, often 4-lobed; fruit a capsule or berry; flower syncarpous, apopetalous, epigynous, regular, rarely irregular.

CUCURBITACEAE

1. Flowers regular

- Herbs; calyx not brightly colored
 - Seeds hairy; flowers rose purple in a long spike
 - Seeds not hairy; flowers yellow, white or rose
- Shrubs; calyx bright-colored, spreading

2. Flowers irregular; petals apparently 5; stamens 1

Chamaenerium—Fireweed
(Gr. *chama*, ground, *erion*, rose, *haima*, blood)

Leaves lanceolate, entire; flowers 2-3 cm. wide

Oenothera—Evening Primrose, Goodwillie
(Gr. *oino*theras, a plant which cures *oinos*, wine)

- Flowers yellow
 - Capsule winged
 - Plant low, almost trailing; leaves petioled
 - Plant erect, 3-10 dm. high; leaves sessile
 - Capsule 4 angled, not winged
 - Petals about 2 cm. long; native weed
 - Petals 3-7 cm. long; cultivated
- Flowers white to pink or red
 - Stemless
 - Blooming by day
 - Blooming at nightfall
 - Stemmed
 - Flowers white; capsule winged
 - Flowers rose to purple

Fuchsia—Fuchsia

(Named for the German botanist Fuchs)

- Flowers hanging
 - Tube of calyx shorter than lobes
 - Tube of calyx 2-5 times longer than the lobes
- Flowers erect
 - Erect shrub; flowers in a panicle
 - Trailing; flowers solitary

Lopézia—Lopezia

(Named for an early Spanish naturalist, Lopez)

Leaves lance-oblong to ovate; flowers rose, 5-6 mm. wide

L. gracilis

Cactales Cactus Order

Cucurbitaceae—Gourd Family

Herbs, usually with tendrils and alternate lobed leaves; sepals 5, united with each other and with the ovary, petals usually 5, united, stamens usually 3, ovary 1-3-celled, ovules 2-5, fruit a pepo, rarely a capsule or achene; flower syncarpous, monoecious or dioecious, hypogynous, epigynous, regular.

- Flowers large, 3-15 cm. mostly yellow or yellowish
 - Staminate flowers solitary
 - Flowers white
 - Flowers yellow
 - Flowers bright yellow, bell shaped; stigma lobes 6
 - Flowers pale yellow, shallow; stigma lobes 3
 - Staminate flowers clustered
 - Tendrils present; fruit 3-6 dm. long
 - Tendrils lacking; fruit 3-5 cm. long, bristly, spiraling
- Flowers small, ½-2 cm., white or greenish
 - Leaves compound; leaflets 3-7

b. Leaves simple, lobed		
(1) Ovary and fruit 1-seeded		<i>Sicyos</i>
(2) Ovary and fruit several-seeded		<i>Micramphelis</i>
	Lagenária—Gourd, Calabash (Lat. <i>lagena</i> , bottle, from the fruit)	
Leaves rounded; the fruit club- or flask-shaped		<i>L. vulgaris</i>
	Cucúrbita—Pumpkin, Squash (Lat. <i>cucubita</i> , squash)	
1. Leaves lobed; fruit stalks strongly ridged		<i>C. pepo: pumpkin</i>
2. Leaves not lobed; fruit stalks scarcely ridged		<i>C. maxima: squash</i>
	Cúcumis—Cucumber, Muskmelon (Lat. <i>cucumis</i> , cucumber)	
1. Leaves lobed		<i>C. sativa: cucumber</i>
2. Leaves rounded, not lobed		<i>C. melo: melon</i>
	Lúffa—Dishcloth Gourd, Vegetable Sponge (The Arabic name)	
Leaves round, many-lobed; flowers yellowish		<i>L. aegyptiaca</i>
	Ecbálium—Squirting Cucumber (Gr. <i>ekballo</i> , to cast out, from the fruit)	
Leaves ovate, heart-shaped at base; flowers yellow		<i>E. elatírium</i>
	Cyclantherá—Cyclanthera (Gr. <i>kyklos</i> , circle, <i>anthera</i> , anther)	
Leaflets oval, toothed or lobed; fruit ovoid, spiny		<i>C. dissécta</i>
	Sicyos—Star Cucumber (Gr. <i>sikyos</i> , cucumber)	
Leaves with shallow lobes; fruits yellowish, spiny, clustered		<i>S. angulátus</i>
	Micrámpelis—Wild Cucumber, Mock Apple (Gr. <i>mikros</i> , small, <i>ampelis</i> , vine, from the climbing habit)	
Leaves deeply 3-7-lobed; flowers fragrant; fruit bladdery, spiny		<i>M. lobáta</i>
	Begoniáceae—Begonia Family	
Herbs with alternate simple leaves; sepals 2, petals 2-5, stamens many, ovary 2-4-celled, styles 2-4, fruit a triangular capsule; flower syncarpous, monoecious, apopetalous, epigynous, often irregular.		
	Bégónia—Begonia, Elephant's Ear (Named for Begon, a governor of Santo Domingo)	
The species and varieties are numerous and closely related; see Bailey's Cyclopaedia of Horticulture, 1:143.		
	Apiales Parsley Order	
	Apiáceae—Carrot Family	
Herbs, with alternate mostly compound leaves; sepals united and completely fused with the calyx, the calyx usually appearing absent as a consequence, petals 5, stamens 5, ovary 2-celled, styles 2, fruit of twin achenes; flower syncarpous, apopetalous, epigynous, usually regular, the flowers typically in umbels.		
1. Flowers in umbels; leaves not prickly		
a. Flowers white or cream-colored		
(1) Leaves simple, lobed, 2-4 dm. wide; umbels 1-2 dm. wide		<i>Heracleum</i>
(2) Leaves compound		
(a) Fruits prickly		<i>Daucus</i>
(b) Fruits smooth		<i>Apium</i>

RUBIACEAE

b. Flowers yellow, yellowish or greenish

(1) Flowers yellow

(a) Leaf divisions thread-like

(b) Leaf divisions broad

Foeniculum

F. vulgare

(2) Flowers yellowish or greenish

(a) Leaf divisions thread-like

(b) Leaf divisions wedge-shaped, lobed

Aduceus

C. sativum

2. Flowers in heads

Heráceum—Cow Parsnip

(Gr. *Herakleios*, of Hercules, from the giant size)

Tall, 1-3 m. high; leaves very hairy

H. sphacelatum

Dáucus—Carrot

(Gr. *daukos*, carrot)

Leaves finely cut; fruiting umbel cup-shaped

D. carota

Ápium—Celery

(Lat. *apium*, parsley)

Leaves 3-7-pinnately divided; umbels small; in one variety, the root is turnip-like

L. sativum

Foeniculum—Fennel

(Lat. *foenum*, hay)

Smooth, 1-2 m. high; sweet aromatic

F. vulgare

Pastináca—Parsnip

(Lat. *pastus*, food)

Leaflets coarse, toothed or lobed; poisonous when wild

P. sativus

Anéthum—Dill

(Gr. *anethon*, anison, anise, dill)

Stem smooth, about 1 m. high; petals falling quickly

A. graveolens

Cárum—Parsley

(Gr. *karon*, carum, caraway)

Flowers greenish; cultivated

C. hortulana

Erýngium—Sea Holly

(Gr. *eryngion*, name of a plant)

1. Bracts below the head 7-8

E. maritimum

2. Bracts below the head 10-20

E. alpinum

Rubiales Madder Order

Rubiáceae—Madder Family

Herbs or shrubs with opposite or whorled leaves; sepals united, ~~completely~~ ~~completely~~ ~~adhering~~ ~~adhering~~ ~~adhering~~ with the ovary, or with 4-5 free lobes, petals 4-5 or more united, stamens 4-5, ovary 2-lobed, stigma 2, fruit a 2-seeded capsule; flower syncarpous, sympetalous, epigynous, regular

1. Leaves whorled; flowers tiny, 4-parted

Glossyina

2. Leaves opposite; flowers large

Gardenia

a. Flowers solitary, fragrant; corolla 5-9-lobed

G. grandiflora

b. Flowers clustered; corolla 4-lobed

G. multiflora

Gálium—Bedstraw

(Gr. *gallon*, bedstraw, *gáta*, milk, from the curdling effect on milk)

Leaves lance-linear, in 4's; flowers white, in a panicle

G. aparine

Gardenia—Gardenia, Cape Jessamine

(Named for Dr. Garden, an American ~~correspondent~~ ~~correspondent~~ ~~correspondent~~ of Linnaeus)

Leaves oblong, bright green; flowers large, white, often ~~white~~

G. grandiflora

Bouvardia—Bouvardia

(Named for Bouvard, a French botanist)

Leaves opposite, ovate-acuminate; flowers white

B. speciosa

Caprifoliaceae—Honeysuckle Family

Shrubs or vines, rarely herbs, with mostly simple opposite leaves; sepals united, more or less completely fused with the ovary, petals 5, united, ovary 2-5 celled, stigma 1-3, fruit a capsule or berry; flower syncarpous, sympetalous, epigynous, regular or irregular.

Lonicera—Honeysuckle

(Named for the German herbalist, Lonicer)

Leaves oblong, united in pairs above; flowers trumpet-like, red or yellow; berry red

L. sempervirens: trumpet.
et h.

Campanales Bluebell Order

Campanulaceae—Bluebell Family

Herbs with alternate leaves and milky juice; sepals 5, united, petals 5, united, stamens 5, ovary 2-5 celled, stigmas 2-5, fruit a capsule; flower syncarpous, sympetalous, epigynous, regular or irregular.

1. Flowers regular

a. Flowers bell-shaped

Campanula

b. Flowers cup- or saucer-shaped

Platycodon

2. Flowers irregular, the tube slit

Lobelia

Campánula—Bluebell, Harebell

(Lat. *campana*, bell, from the form of the corolla)

1. Stigmas 3; calyx without appendages

a. Native; flowers nodding; leaves linear

C. rotundifolia

b. Cultivated

(1) Flowers solitary; leaves ovoid, petioled

C. carpatica

(2) Flowers in a raceme; leaves lance-ovate, sessile

C. rupiculoides

2. Stigmas 5; calyx with leafy appendages

C. medium: Canterbury bells

Platycódón—Platycodon

(Gr. *platys*, flat, *kodon*, bell, from the corolla)

Leaves ovate, toothed; corolla blue or white, 4-6 cm. wide

P. grandiflorum

Lobélia—Lobelia

(Named for the herbalist Lobelius)

Stems tufted, 4-6 in. high; leaves lanceolate; flowers blue

L. eriopes

Asterales Aster Order

Valerianáceae—Valerian Family

Herbs with opposite leaves; sepals adherent to the ovary, often invisible in flower, becoming pappus-like in fruit, petals 5, united, stamens 1-3, ovary 3-celled, but only one cell with an ovule, stigmas 1-3, fruit an achene; flower syncarpous, sympetalous, epigynous, regular or irregular.

1. Stamens 3; corolla without basal spur

Valeriana

2. Stamen 1; corolla with basal spur

Centranthus

Valeriána—Valerian

(Lat. *valeo*, to be well, from the medicinal root)

1. Leaflets 11-21

V. officinalis

2. Leaflets 3-7

V. phu

a. Rootstalk horizontal

V. edulis

b. Rootstalk long, tuberous

Centránthus—Spurred Valerian

(Gr. *kentron*, spur, *anthos*, flower)

Leaves lance-ovate, nearly entire; flowers red to white

C. ruber

Dipsáceae—Teasel Family

Herbs with opposite leaves; calyx tube forming a border above the ovary, corolla 4-5 lobed, stamens 4, ovary 1-celled, stigma 1, fruit an achene; flower syncarpous, sympetalous, epigynous, regular or irregular.

1. Flowers in an oblong prickly head
 2. Flowers in a flat head, without prickles

Dipsacus—Teasel
(Gr. *dipsakos*, teasel)

Leaves lance-oblance; flowers bluish

Dipsacus
teasel

Dipsacus
teasel

Scabiosa—Sweet Scabious
(Lat. *scabies*, itch, from its eruptive medical properties)

1. Flowers purple, red or white
 2. Flowers light blue

Scabiosa
purple
Scabious

Asteraceae—Aster Family

Herbs with flowers in dense involucrate heads; sepals (pappus) 0 or 0-6 in. long, naked, toothed, etc., or wanting, petals 5, stamens 5 or 0, united by their anthers, ovary 1-celled, 2-lobed, style 5-2-cleft, stigmas 2; flower syncarpous, sympetalous, regular or irregular, liguliform. The flower of the head may be all tube-shaped, or the outer row or so may be ribbon-shaped, or all may be ribbon-shaped. The receptacle is flat or more or less conical, naked (i. e., bearing only the bracts) or bearing scales among the flowers. The head is surrounded by 1 or more rows of dry, awl-shaped bracts.

Key to the Genera

1. Flowers tube-shaped, no ray or ribbon-like flowers present



Tubular heads of *Laciniaria* long section and whole flower.

a. Flowers bright-colored; heads conspicuous

(1) Leaves or involucre spiny

(a) Leaves spiny

x. Pappus of plumy bristles

(x) Involucral scales thick and fleshy, articulated

(y) Involucral scales not thick and fleshy, entire

y. Pappus none

(b) Involucre spiny with hooked spines

(2) Leaf and involucre without spines

(a) Heads in long spikes

Centaurea
Parthenium
Centaurea
acanthoides

Liatris

- (b) Heads in flat-topped clusters, or single
 - x. Involucular scales dry and papery, yellow to white or red
 - (x) Leaves white-cottony, extending along the stem as wings *Ammobium*
 - (y) Leaves not white-cottony, stem not winged *Helichrysum*
 - y. Involucular scales not papery, usually green
 - (x) Heads white, yellowish or purplish; native *Eupatorium*
 - m. Heads white, pink or purplish *Kuhnia*
 - n. Heads yellowish
 - (y) Heads deep purple or blue
 - m. Heads deep purple; native *Vernonia*
 - n. Heads blue, rarely white; cultivated *Ageratum*
 - b. Flowers greenish; heads inconspicuous
 - (1) Leaves broad, ovate, not deeply lobed
 - (a) Involucre forming a hooked bur *Xanthium*
 - (b) Involucre not hooked *Iva*
 - (2) Leaves narrow or deeply lobed
 - (a) Leaves strong-scented
 - x. Pappus a short crown *Tanacetum*



Radiate head of *Cosmos* with long section, ray flower and tubular or disk flower.

y. Pappus none		
(x) Receptacle smooth		<i>Artemisia</i>
(y) Receptacle chaffy		<i>Urtica</i>
(b) Leaves not strong-scented		
x. Pappus a crown, or none		<i>Asteraceae</i>
y. Pappus of two or more barbed awns		<i>Polygonum</i>
2. Flowers of two kinds, tubular and ray, or all ray in doublet form		
a. Heads with chaff, i. e., each flower with a scale		
(1) Ray flowers trumpet-shaped		<i>Compositae</i>
(2) Ray flowers flat, ribbon- or strap-shaped		
(a) Rays white		
x. Leaves pinnately dissected, strong scented		<i>Achillea</i>
y. Leaves not dissected or strong scented		<i>Galactites</i>
(b) Rays yellow or purple		
x. Disk globose to cylindric		
(x) Chaff stout or spiny; rays white, red or purple		<i>Zinnia</i>
m. Chaff equalling the disk flowers		<i>Liatris</i>
n. Chaff much longer than the disk flowers		
(y) Chaff soft; rays yellow		
m. Disk globose; achenes 4-angled		<i>Rudbeckia</i>
n. Disk oblong to cylindric; achenes wing-margined		<i>Ratibida</i>
y. Disk flat or slightly convex		
(x) Bracts of the involucre united, at least one series		<i>Dahlia</i>
m. Chaff broad; achenes flat, winged-margined		
n. Chaff linear or long-pointed; achenes not flat or winged		
(m) Rays white to pink or red		<i>Coreopsis</i>
(n) Rays yellow to maroon		
r. Pappus teeth barbed upward or downward		<i>Bidens</i>
s. Pappus teeth smooth or lacking		<i>Cirsium</i>
(y) Bracts not united, or somewhat so at base		
m. Achenes broad, winged		
(m) Rays in 2-3 rows; disk flowers sterile		<i>Solidago</i>
(n) Rays in 1 row; disk flowers fertile		<i>Polygonum</i>
n. Achenes not winged		
(m) Rays neutral, deciduous		
r. Pappus of two triangular awns; achenes 4-angled		<i>Helianthus</i>
s. Pappus of two awns and small scales; achenes flat		<i>Helianthella</i>
(n) Rays pistillate, persistent; pappus crown-like		<i>Helianthemum</i>
b. Heads without chaff; the receptacle slightly bristly in one or two cases		
(1) Pappus of capillary bristles		
(a) Rays yellow		
x. Heads small, 2-8 mm.		<i>Solidago</i>
y. Heads larger, 1-3 cm.		<i>Chrysanthemum</i>
(b) Rays white to blue or purple		
x. Heads single, on short scapes		<i>Bellis</i>
y. Heads several-many		
(x) Rays narrow and many; bracts in 1-3 rows		<i>Erysimum</i>
(y) Rays broader and fewer; bracts in 3-5 rows		<i>Gilia</i>
m. Pappus double; cultivated annual		
n. Pappus single; native		
(m) Heads in a panicle		<i>Leucanthemum</i>
(n) Heads in a cymose cluster		<i>Onopordum</i>
(2) Pappus none, or of 5-12 scales or bristles		
(a) Pappus none		
x. Achenes of disk small and alerted		<i>Chrysanthemum</i>

- y. Achenes of disk normal
 - (x) Achenes flat
 - (y) Achenes 4-angled
- (b) Pappus present
 - x. Rays white
 - (x) Pappus of bristles and awns
 - (y) Pappus a short-toothed crown
 - m. Receptacle nearly flat
 - n. Receptacle conic or ovoid
 - y. Rays yellow or orange
 - (x) Bracts united into a deep cup
 - m. Leaves finely cut; heads very small
 - n. Leaves coarsely cut; heads large
 - (y) Bracts not united
 - m. Bracts squarrose-spreading
 - n. Bracts not squarrose-spreading
 - (m) Leaves typically lobed; achenes densely hairy
 - (n) Leaves not lobed; achenes smooth or nearly so
 - 3. Flowers strap-shaped, all alike



Ligulate head of dandelion, *Taraxacum*; showing the habit of the plant, long section of the head, a ligulate or strap-shaped flower, and a parachute fruit.

ASTERACEAE

a. Heads on a scape
 b. Heads on a leafy stem
 (1) Pappus branches united by hairs
 (2) Pappus branches not so united
 (a) Pappus capillary
 x. Achenes flattened
 (x) Achenes blunt
 (y) Achenes beaked
 y. Achenes cylindric or angled
 (x) Flowers yellow or orange
 m. Pappus brown or brownish
 n. Pappus white
 (y) Flowers white or cream-colored
 (b) Pappus of blunt scales; flowers blue

Taraxacum
Papaverinae
Eriophyinae
Lactuca
Hypochaeridinae
Cynareae
Asterinae
Cassinae

Cynara—Artichoke, Cardoon
(Gr. *κύναρα*, artichoke)

1. Leaves woolly below; head smooth
 2. Leaves smooth; heads prickly

C. *hirsutus*
C. *cardunculus*

Cárduus—Thistle
(Lat. *carduus*, thistle)

1. Heads less than 3 cm.
 2. Heads more than 3 cm.
 a. Lower surface of leaf brown hairy
 b. Lower surface of leaf densely white woolly
 (1) Leaves usually lobed or dentate
 (2) Leaves typically pinnatifid
 (a) Leaves white woolly above
 (b) Leaves green above

C. *acanthoides* (white
thistle)
C. *lanatus* (brown
thistle)
C. *officinalis* (all thistle)
C. *whitallii* (white
thistle)
C. *arenarius* (field thistle)

Cártamus—Safflower, False Saffron
(Ar. *qartama*, paint, because of the yellow dye it
Leaves oblong-ovate; flowers orange

C. *tinctorius*

Árctium—Burdock
(Gr. *arktion*, a plant, from *arktos*, bear, referring to the burrs)

A biennial weed with large ovate leaves

A. *lappa*

Laciniaria—Blazing Star
(Lat. *lacinia*, tear, fringe, referring to the heads)

1. Bracts pointed
 a. Heads 15-60-flowered
 (1) Tips of bracts rigid and spreading
 (2) Tips closely appressed
 b. Heads 3-6-flowered
 (1) Heads crowded in a long spike; bract tips spreading
 (2) Heads loose in a short spike; bracts appressed
 2. Bracts obtuse, not pointed
 a. Heads 10-25 mm., 15-45-flowered
 b. Heads 4-8 mm., 5-15-flowered

L. *repanda*
L. *erecta*
L. *praeoccidentalis*
L. *praeoccidentalis*
L. *erecta*
L. *erecta*
L. *erecta*
L. *erecta*

Ammobium—Everlasting
(Gr. *ammos*, sand, *bios*, living)

Leaves lanceolate, cottony, extending down the stem as wings; heads white

Helichrysum—Everlasting
(Gr. *helios*, sun, *chrysos*, gold, referring to the golden heads of some varieties)
Leaves lance-oblong, entire; scales papery, yellow, white or pink *H. bracteatum*

	Eupatórium—Eupatorium (Gr. <i>eupatorium</i> , a kind of medicinal plant)
1. Leaves petioled	
a. Leaves in whorls of 3-6	
(1) Leaves hairy and wrinkled	<i>E. maculatum</i>
(2) Leaves smooth	<i>E. purpureum</i> : <i>Joe-pye weed</i>
b. Leaves opposite	<i>E. ageratoides</i> : <i>sanicle</i>
2. Leaves sessile, opposite as a rule	
a. Leaves narrowed at base	<i>E. altissimum</i>
b. Leaves clasping, perfoliate	<i>E. perfoliatum</i> : <i>boneset</i>

Kühnia—Kuhnia
(Named for Dr. Kuhn, a botanical collector of the 18th century)
Leaves lanceolate; heads cream-colored *K. eupatorioides*

	Vernónia—Ironweed (Named for Vernon, an English botanist)
1. Bracts with long spreading awns	
2. Bracts merely acute	<i>V. noveboracensis</i> <i>V. fasciculata</i>

Agerátum—Ageratum
(Gr. *ageraton*, everlasting)
Leaves ovate or cordate; flowers blue, rarely white *A. mexicana*

Xánthium—Cocklebur
(Gr. name of a plant yielding a yellow dye; *xanthos*, yellow)
Leaves ovate; involucre with hooked spines *X. canadense*

Iva—Marsh Elder
(Of doubtful meaning)
Leaves ovate, white below; involucre smooth *I. xanthifolia*

Tanacétum—Tansy
(From *tansy*, everlasting, from Gr. *athanasia*, immortality)
Leaves twice pinnatifid, strong-scented; flowers greenish yellow *T. vulgare*

	Artemísia—Wormwood (From <i>Artemisia</i> , wife of Mausolus)
1. Leaves entire or lobed at tip	
a. Leaves glabrous, linear	<i>A. dracunculoides</i>
b. Leaves densely hairy or woolly	
(1) Leaves linear	<i>A. glauca</i>
(2) Leaves oblong to lanceolate	<i>A. gnaphaloides</i>
2. Leaves divided	
a. Heads erect	
(1) Leaves typically hairy; perennial	<i>A. canadensis</i>
(2) Leaves glabrous; annual or biennial	<i>A. biennis</i>
b. Heads drooping	
(1) Leaves silvery	
(a) Leaf segments linear	<i>A. frigida</i>
(b) Leaf segments broad, ovoid	<i>A. absinthium</i>
(2) Leaves green	<i>A. abrotanum</i>

Ambrósia—Ragweed, Kinghead
(Gr. name of a plant)
Leaves palmately divided; tall *A. trifida*

2. Leaves pinnately divided

a. Annual; fertile heads clustered; involucre spiny

b. Perennial; fertile heads solitary; involucre naked or warty

Bidens—Bidens, Beggar-ticks

(Lat. *bt.*, two, *dens*, tooth, from the awned awl-like)

1. Heads yellow

a. Heads nodding after flowering

B. cernua

b. Heads always erect

B. pilosa

(1) Rays conspicuous; heads 4-6 cm. wide

B. pilosa

(2) Rays small or wanting; heads 1-4 cm. wide

B. glomerata

(a) Leaves not divided

B. glomerata

x. Outer bracts 2-4 times longer than head

B. glomerata

y. Outer bracts not longer than head

B. glomerata

(b) Leaves pinnately 3-5-divided

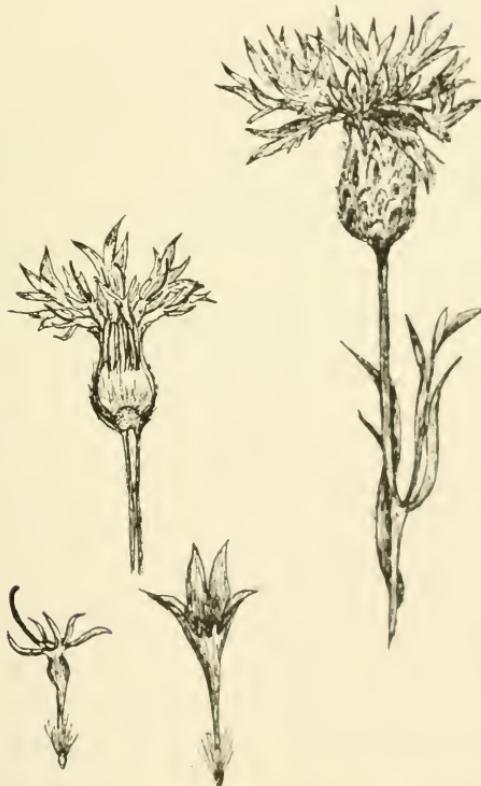
B. glomerata

2. Heads red

B. amplexicaulis

Centauréa—Bachelor's Button, Bluebottle

(Gr. name of the centaury)



Head of bluebottle, *Centaurea*, with long section, and two kinds of *Bidens*.
Leaves gray, linear; rays blue, more rarely white or pink

Ānthemis—Chamomile, Mayweed

(Gr. **anthemis**, flower, perhaps referring to the many flowers)

1. Rays white

a. Rays pistillate

- (1) Chaff acute or pointed
- (2) Chaff blunt or rounded

b. Rays without pistils

2. Rays yellow

*A. arvén sis**A. nóbilis**A. cótula**A. tinctória*

Galinsóga—Galinsoga

(Named for Galinsoga, a Spanish botanist)

Low weed, with inconspicuous rays and broad leaves

G. parviflóra

Zinnia—Zinnia

(Named for Zinn, a German botanist)

Cultivated annuals, generally with double or partly double flower heads of various shades of dull yellow, orange, red and purple

Z. élégans

Echinácea—Purple Coneflower

(Gr. **echinos**, hedgehog, referring to the bristly head)

1. Leaves dentate; rays 15-20, dull purple

E. purpúrea

2. Leaves entire; rays 12-15, rose-purple

E. angustifólia

Rudbékia—Coneflower

(Named for the Swedish botanists, Rudbeck)

1. Heads single

a. Leaves entire or nearly so; disk purple-brown

R. hírta

b. Leaves deeply cut, except the upper; disk yellow

R. laciniáta

2. Heads doubled

R. laciniáta: golden glow

Ratibida—Coneflower

(Of doubtful meaning)

1. Disk cylindric, yellow

R. columnáris

2. Disk oblong, brown

R. pinnáta

Dálhia—Dahlia

(Named for Dahl, a Swedish botanist)

Roots tuberous, fascicled; leaves pinnate; flowers white to red

D. variábilis

Cósmos—Cosmos

(Gr. **kosmos**, order, world)

Leaves twice pinnatifid; flowers white to red, rarely yellow

C. bipinnátus

Coreópsis—Coreopsis, Tickseed

(Gr. **koris**, bug, **opsis**, likeness)

1. Leaves 2-pinnate; rays often maroon

C. tinctória

2. Leaves 1-pinnate or simple

C. Drummón dii

a. Annual; leaves or leaflets oval

C. tripteris

b. Perennial; leaves or leaflets lanceolate

C. lanceoláta

(1) Leaves with 3, sometimes 5, leaflets

C. palmdáta

(2) Leaves simple

3. Leaves palmately 3-lobed

Sílphium—Sílphium

(Gr. name of a resinous plant)

1. Leaves simple, united at base into a cup

S. perfoliá tum: cup plant

2. Leaves very large, deeply pinnatifid

*S. laciniá tum: compass**plant*

Verbesína

(Of doubtful meaning)

Tall cultivated perennial with rough lanceolate leaves and yellow flowers; disk

flowers large, campanulate

V. alternifólia

Helianthus—Sunflower

(Gr. *helios*, sun, *anthos*, flower, referring to the golden flower)

1. Disk brown or purplish
 - a. Leaves opposite, thick, lanceolate; perennial *H. scabriuscula*
 - b. Leaves mostly alternate, thinner, ovate; annual; heads ~~yellow~~ double
in the cultivated forms *H. annua*
2. Disk yellow
 - a. Leaves long, mostly lance-shaped
 - (1) Leaves petioled; stem glaucous *H. argentea*
 - (2) Leaves sessile
 - (a) Stem smooth *H. discolor*
 - (b) Stem rough
 - x. Leaves mostly entire, usually folded *H. Maximowiczii*
 - y. Leaves toothed, flat *H. glauca*
 - b. Leaves ovoid
 - (1) Stem smooth or soft hairy *H. dumetorum*
 - (2) Stem rough or bristly hairy *H. pilosus*

Helianthella—Alpine Sunflower

(A Greek-Latin hybrid, meaning little sunflower)

Leaves opposite, very long; heads 5-10 cm. wide, yellow *H. annulipes*

Helioëpsis—Oxeye

(Gr. *helios*, sun, *opsis*, look, from the yellow rays)Leaves ovate; rays pistillate, yellow *H. viscosa*

Solidago—Golden-rod

(Lat. *solidus*, whole, from its reputed healing properties)

1. Heads in a flat-topped cluster
 - a. Rays fewer than the disk flowers
 - (1) Leaves ovate to oblong, rough *S. speciosa*
 - (2) Leaves long, lanceolate, smooth *S. Heldreichii*
 - b. Rays more numerous than the disk flowers; leaves linear
2. Heads in a terminal much-branched conical cluster
 - a. Stem and leaves glabrous or nearly so
 - (1) Heads in a compact rounded thyrsus *S. speciosa*
 - (2) Heads in one-sided spreading clusters
 - (a) Leaves 3-nerved
 - x. Tall, 1-2 m. high; along streams and in meadows *S. speciosa*
 - y. Low, $\frac{1}{2}$ m. high; on prairies and plains *S. missouriensis*
 - (b) Leaves without a strong pair of lateral veins
 - x. Racemes few; heads 4-6 mm. high *S. laevis*
 - y. Racemes many; heads 3-4 mm. high *S. paniculata*
 - b. Stems and leaves hairy
 - (1) Leaves lanceolate, serrate, long pointed *S. canadensis*
 - (2) Leaves oblanceolate to broadly spatulate
 - (a) Leaves green, rough on both sides *S. glauca*
 - (b) Leaves gray or ashy
 - x. Leaves faintly 3-nerved *S. nemoralis*
 - y. Leaves strongly 3-nerved *S. rugosa*
 3. Heads mostly in axillary clusters
 - a. Rays white; leaves hairy, blunt *S. pilosa*
 - b. Rays yellow; leaves smooth, long-pointed *S. glauca*

Chrysopsis—Chrysopsis

(Gr. *chrysos*, gold, *opsis*, like)

Leaves hairy, oblong; heads yellow

ASTERACEAE

Béllis—English Daisy
(Lat. *bellis*, daisy, from *bellus*, beautiful)
Leaves basal, spatulate; heads usually double, white to pink

B. perennis

Erígeron—Daisy
(Gr. *eri-*, very, *geron*, old man, referring to the hoary heads)

1. Heads 2-3 mm. wide; rays inconspicuous *E. canadensis*
2. Heads 5-20 mm. wide; rays conspicuous
 - a. Rays 40-70 *E. annuus*
 - b. Rays 100-150 *E. philadelphicus*

Callistéphus—Garden Aster
(Gr. *kalli-*, beautiful, *stéphos*, wreath)

C. chinensis

Double asters of the garden

Áster—Aster

(Gr. *aster*, star, in reference to the head)

1. Lower leaves heart-shaped, petioled
 - a. Rays white, violet or pink
 - (1) Rays white, 6-10 *A. divaricatus*
 - (2) Rays violet, 5-16 *A. macrophyllus*
 - b. Rays blue to purple
 - (1) Leaves entire *A. azureus*
 - (2) Leaves toothed
 - (a) Stem smooth
 - x. Heads 4-6 mm. high; leaves hairy *A. cordifolius*
 - y. Heads 6-10 mm. high; leaves smooth *A. sagittifolius*
 - (b) Stem finely hairy *A. Drummondii*
 2. Lower leaves not petioled and heart-shaped
 - a. Stem leaves clasping by a heart-shaped base
 - (1) Stem smooth or nearly so
 - (a) Leaves entire *A. levis*
 - x. Leaves oblong to ovate *A. juncus*
 - y. Leaves linear or lance-linear *A. longifolius*
 - (x) Bracts of the involucre in 3-4 rows *A. levis*
 - (y) Bracts of the involucre in 1-2 rows *A. sagittifolius*
 - (b) Leaves toothed *A. levis*
 - (2) Stem rough or hairy
 - (a) Leaves entire
 - x. Stem rough *A. pátens*
 - y. Stem hairy *A. novae-angliae*
 - (b) Leaves toothed *A. puniceus*
 - b. Leaves sessile, slightly or not at all clasping
 - (1) Leaves densely silky-silvery, entire; rays blue *A. sericeus*
 - (2) Leaves not silky-silvery
 - (a) Stem leaves linear, entire
 - x. Heads 16-25 mm. wide *A. ptarmacoídes*
 - y. Heads 6-12 mm. wide *A. multiflorus*
 - (x) Heads in 1-sided racemes *A. ericoides*
 - (y) Heads not in 1-sided racemes *A. oblongifolius*
 - (b) Stem leaves oblong to lanceolate
 - x. Stem and leaves hairy *A. Tradescantii*
 - y. Stem and leaves not hairy
 - (x) Heads 10-15 mm. wide *A. salicifolius*
 - (y) Heads 15-25 mm. wide *(incl. A. paniculatus)*

Doellíngera—Doellíngera
(Named for Doellinger, a botanical explorer)

D. umbellata

Leaves lanceolate; rays small, white

ASTERACEAE

Achilléa—Yarrow, Milfoil (Named for Achilleus)

1. Heads white
 - a. Heads single; leaves finely dissected
 - b. Heads double; leaves simple
2. Heads yellow

Chrysánthemum—Chrysanthemum, Daisy (Gr. *chrysos*, gold, *anthemon*, flower)

1. Heads large, few or solitary
 - a. Heads with a single row of white rays
 - (1) Leaves spatulate
 - (a) Weed with narrow, deeply cut leaves
 - (b) Cultivated plant with thick crenate leaves
 - (2) Leaves lance-ovate, toothed; cultivated
 - b. Heads variously colored, usually with many rows of rays
 - (1) The various showy "chrysanthemums" are hybrids of *C. indicum* and *C. morifolium*
 - (2) Heads rose or pink, single garden form
2. Heads small, numerous, often double; leaves deeply cut pinnatifid

Matricária—Chamomile

(From its use in medicine; cfr. Lat. *matrix*)

Annual, with smooth aromatic deeply cut leaves and small white heads, single or double

M. chamomilla

Boltónia—Boltonia

(Named for Bolton, an English botanist of the 18th century)

Leaves entire; rays white to purplish

B. glauca

Tagétes—Marigold (of doubtful meaning)

Leaves pinnate; head single or double; rays yellow or orange

T. erecta

Grindélia—Grindelia

(Named for Grindel, a Russian botanist)

Leaves simple, toothed; heads yellow, sticky

G. squarrosa

Heleníum—Oxeye, Sneezeweed (Gr. *helenion*, name of a plant)

1. Stems winged; heads 2-4 cm. wide
2. Stems not winged; heads 6-8 cm. wide

H. annuale
H. H. glabrum

Gaillárdia—Gaillardia

(Named for the botanist, Gaillard)

1. Annual; rays brown-purple, yellow at tip
2. Perennial; rays yellow, or brown-purple at base

G. pulchella
G. aristata

Caléndula—Marigold

(Lat. *kalendae*, months, referring to its persistent blooming)

Leaves oblong, sessile; heads single or double

C. officinalis

Taráxacum—Dandelion

(Gr. *tarasso*, to disturb)

Leaves lobed or dissected; heads yellow

T. officinale

Dysódia—Dysodia

(Gr. *dysodes*, ill-smelling, referring to the strong-scented plants)

Leaves deeply pinnatifid; heads small, yellow

D. purpurea

Tragopógon—Salsify, Oyster plant, Goatsbeard

(Gr. *tragos*, goat, *pogan*, beard, referring to the plant)

1. Heads yellow; bracts not longer than the rays
2. Heads purple; bracts much longer than rays

T. porrifolius
T. perennis

ASTERACEAE

Sónchus—Sow-thistle
(Gr. name of the sow-thistle)

1. Perennial; heads 2-3 cm. wide *S. arvensis*
 2. Annual
 a. Achenes wrinkled crosswise; ears of leaves acute *S. oleraceus*
 b. Achenes 3-striate on each side; ears rounded *S. ásper*

Lactúca—Lettuce

(Lat. *lactuca*, lettuce, from *lac*, milk, referring to the milky juice)

1. Pappus white
 a. Flowers blue *L. pulchella*
 b. Flowers yellow or cream-colored
 (1) Cultivated *L. sativa*
 (2) Native
 (a) Leaves twisted into a vertical position, midrib spiny *L. scariosa*
 (b) Leaves normal, pinnatifid; margin spiny *L. ludoviciana*
 2. Pappus brown *L. spicata*

Hieráicum—Hawkweed

(Gr. *hieracium*, hawkweed, from *hierax*, hawk)

1. Leaves and stem with hairs 2-3 cm. long; achene long-beaked *H. longipilum*
 2. Leaves and stem with short stout hairs; achenes truncate *H. scabrum*

Crépis—Hawksbeard

(Gr. *krepis*, boot, base, perhaps from the basal rosette)

Leaves lanceolate, pinnatifid; heads yellow *C. tectorum*

Nábalus—Nabalus

(Latinized form of the Indian name)

1. Pappus dark brown *N. dibus*
 2. Pappus straw-color
 a. Involucre hairy *N. ásper*
 b. Involucre smooth *N. altissimus*

Cichóríum—Chicory

(Latinized form of the Arabic name)

Leaves lobed; heads blue *C. intybus*

Monocotyledons

Alismatales Arrowhead Order

Alismáceae—Arrow-head Family

Aquatic and marsh herbs, with fibrous roots, flowers in clusters; sepals 3, not petal-like, petals 3, stamens 6-many, pistils several-many; flowers apocarpous, apopetalous, hypogynous, regular.

1. Each pistil 1-seeded
 a. Flowers perfect; pistils in a ring *Alisma*
 b. Pistillate and staminate flowers separate; pistils covering a convex receptacle *Sagittaria*
 2. Each pistil many-seeded
 a. Stamens 9, fertile *Butomus*
 b. Numerous fertile and sterile stamens *Hydrocleis*

Alísma—Water-plantain
(Gr. *alísmá*, a water plant)

Native plant with ovate leaves, and many small flowers in an upright panicle *A. plantago-aquática*

Sagittária—Arrow-head

(Lat. *sagitta*, arrow, from the shape of the leaves)

Several species, mostly blooming in midsummer

1. Leaves arrow-shaped; pistillate flowers obviously stalked *S. latifolia*
 2. Leaves linear, ovate, or rarely arrow-shaped; pistillate flowers not stalked *S. rígida*

Bútōnus

(Gr. *bous*, ox, *tomus*, cut, from the many leaves)

A single European species sometimes cultivated

H. vulgaris

Hydrocleis—Water poppy

(Gr. *hydro-*, water, *kleis*, key)

A single tropical species; often cultivated; plant floating, flowers large, yellow

H. tenuifolia

Hydralæs Water Weed Order

Hydrocharitaceæ—Water-weed Family

Submerged or floating aquatic herbs; sepals 3, petals 3 or 0, stamens 2 (2 or 0), pistil 0 or 3, 3-9-parted, ovary 1-9-celled; flower syncarpous, apetalous, apetalous or syncarpous, regular, usually dioecious.

1. Stems elongated, branched; leaves small, in whorls of 3; flowers with a

thread-like tube

2. Stems undeveloped; leaves long, grass-like

*H. vulgaris**H. tenuifolia*

Philótria—Water-weed

(Gr. *philos*, loving, *tria*, three)

Small native submerged aquatic, often cultivated in aquaria; pistillate flowers with a long, thread-like perianth-tube

P. hastata

Vallisnéria—Eel-grass

(Named for Vallisneri, an Italian botanist)

Submerged grass-like aquatic; pistillate flowers on long coiled stalks

V. spiralis

Arales Arum Order

Aráceæ—Arum Family

Herbs, or somewhat shrubby, with flowers in a dense fleshy spike (spadix), which is subtended or surrounded by a spathe; sepals 4-6 or 0, petals 0, stamens 4-7, ovary 1-celled; flower syncarpous, apetalous, ovary sunk in the fleshy axis. The autumn- and winter-flowering forms are all cultivated greenhouse plants.

1. Spadix covered with flowers to the tip

a. Stem thick, elongated; leaves perforated

b. Stem not appearing above ground; spathe expanded, white

*Araceæ**Zantedeschia*

2. End of spadix without flowers

a. Spathe hood-like; leaves simple, entire

b. Spathe expanded, ill-smelling, preceding the large compound leaf

*Araceæ**Amarthophyllum*

Mónstera

(Of uncertain origin)

Half-climbing plant with aerial roots and edible fruit

M. deliciosa

Zantedeschia—Calla

(Named for Zantedeschia, an Italian botanist)

Commonly cultivated plant with arrow-shaped leaves and large white flowers on long stalks

Zantedeschia

Arum

(The Greek name)

Flowers on lower part of spadix, the staminate and pistillate flowers separated by fringe-like sterile flowers

Zantedeschia

Amorphophyllets

Flowers on lower part of spadix; spathe brownish, foul smelling

A. pinnatifida

Liliales Lily Order

Commelináceae—Spiderwort Family

Upright or trailing herbs with fleshy leaves of moderate thickness; mucilaginous sap; sepals 3 or 0, petals 3, stamens 3 or 6, pistil 1, ovary 2-3-celled; flower syncarpous, apopetalous or sympetalous, hypogynous, regular or irregular; sepals not petal-like, petals usually withering in one day.

1. Flowers regular; stamens 6
 - a. Petals separate *Tradescantia*
 - b. Base of petals united to form a tube *Zebrina*
2. Flowers irregular; fertile stamens 3 *Commelina*

Tradescántia—Spiderwort, Wandering Jew

(Named for Tradescant, an English gardener)

1. Native species with linear leaves; flowers chiefly in early summer
 - a. Sepals and pedicels smooth *T. refélexa*
 - b. Sepals glandular pubescent
 - (1) Leaves and bracts 5-10 mm. wide *T. occidentális*
 - (2) Leaves and bracts 1-2 cm. wide *T. bracteáta*
2. Cultivated species with ovate or lanceolate leaves
 - a. Creeping plant, rooting at the joints; leaves green or white striped; flowers white *T. fluminénsis*
 - b. Plant half prostrate, not widely creeping; flowers rose-colored *T. micrántha*

Zebrína—Wandering Jew

(From *zebra*, referring to the striped leaves)

Creeping plant with variegated leaves, purple beneath *Z. péninsula*

Commelína—Day Flower

(Named for the brothers Commelin, Dutch botanists)

Branching annual weed with bright blue flowers *C. commúnis*

Liliáceae—Lily Family

Herbaceous plants with scapes or leafy stems growing from bulbs, corms or rootstocks, rarely shrubby; sepals 3, petals 3, stamens 6, pistil 1, ovary 3-celled, superior; flowers syncarpous, apopetalous or sympetalous, hypogynous, regular or nearly so; sepals usually petal-like.

1. Plants with evident above-ground stems bearing the leaves, or leaf-like twigs
 - a. Plants with true leaves
 - (1) Leaves thick and fleshy; flowers small, numerous, in elongated leafless spikes or racemes
 - (a) Perianth tubular, with scarcely any limb *Aloe*
 - (b) Tips of petals and sepals free, spreading, irregular *Haworthia*
 - (2) Leaves not thick and fleshy; flowers large, solitary or in loose leafy clusters
 - (a) Flower solitary; stem bearing 1-2 leaves *Tulipa*
 - (b) Flowers usually several; stem bearing many leaves *Lilium*
 - b. True leaves reduced to minute scales, foliage consisting of needle-like or leaf-like twigs in the axils of the scale-leaves
 - (1) Herbaceous; flowers and fruit borne on ordinary twigs *Asparagus*
 - (2) Shrubby; flowers and fruit borne on the leaf-like twigs *Ruscus*
2. Stemless plants
 - a. Flowers borne on erect leafless scapes, usually in clusters
 - (1) Leaves ovate to lanceolate
 - (a) Flowers trumpet-shaped, each lasting one day *Funkia*
 - (b) Flowers bell-shaped, persistent *Convallaria*
 - (2) Leaves linear, each flower lasting several days
 - (a) Plants with thickened roots and no true bulb *Agapanthus*
 - (b) Flowers in umbels, blue or white

LILIACEAE

4

y. Flowers in an elongated spike, orange red	<i>Asphodelus</i>
z. Flowers in a branched panicle, white	<i>Chlorophytum</i>
(b) Plants with true bulbs	
x. Flowers with an involucre	
(x) Flower solitary	<i>Triturus</i>
(y) Flowers in a cluster	<i>Uvularia</i>
y. Flower cluster without an involucre	
(x) Petals and sepals separate	<i>Convallaria</i>
m. Petals and sepals white or greenish, many-veined	<i>Saxifrage</i>
n. Petals and sepals blue (rarely white), one nervled	<i>Huernia</i>
(y) Petals and sepals united at the base into a tube	
b. Flowers solitary, borne directly on the under-ground stem	
(1) Plant with a corm; flower conspicuous	<i>Corydalis</i>
(2) Plant with a creeping rootstock; flowers inconspicuous	<i>Alpinia</i>

Aloe—Aloe

(The Greek name)

Fleshy greenhouse plants; the leaves usually spiny

1. Leaves many-ranked

- a. Stem obvious, branching; leaves 3-7 dm. long with sheathing bases
- b. Stems short, covered with the small warty leaves

2. Leaves 3-ranked, warty and mottled

A. arborescens

A. humilis

A. maculata

Haworthia

(Named for Haworth, an English botanist)

Fleshy greenhouse plant with short stem, and small whitish flowers

H. reticulata

Tulipa—Tulip

(N. L. *tulipa*, turban, from the form of the flower)

Spring-flowering bulbs, often forced into winter blooming. The cultivated forms are generally considered as forming the two species:

- 1. Early flowering, pubescent
- 2. Late flowering, smooth

T. gesneriana

T. somnolenta

Lilium—Lily

(Lat. name of the lily, Gr. *leion*)

1. Autumn-blooming species, sometimes delayed for indoor winter flowering; flowers usually spotted or striped on a white ground

- a. Flower flat; petals reflexed from the base
- b. Flower open bell-shaped; petals reflexed only at the tips, usually with a broad central stripe

L. speciosum

L. auratum

2. Early summer-blooming species, often forced; flowers white

- a. Basal leaves broad; flower open bell-shaped
- b. Leaves all narrow lanceolate; flower trumpet-shaped

L. candidum

L. longiflorum

(*L. speciosum*)

Asparagus—Asparagus

(The Greek name)

1. Foliage twigs thread-like

- a. Hardy vegetable with upright stems
- b. Greenhouse twiner

A. officinalis

A. plumosa

2. Foliage twigs broader, leaf-like

- a. Foliage twigs linear; branches drooping
- b. Foliage twigs ovate lanceolate; stems twining

A. spiralis

A. undulatus

Ruscus—Butcher's Broom

(The Latin name)

Foliage twigs leathery, ovate lanceolate

R. aculeatus

PONTEDERIACEAE

Fúnkia—Day Lily

(Named for Funck, a German botanist)

Garden plants with trumpet-shaped flowers

1. Flowers white, fragrant *F. subcordata*
2. Flowers bluish
 - a. Leaves broad ovate; flowers deep blue *F. ovata*
 - b. Leaves narrow ovate to lanceolate; flowers pale lilac *F. lancifolia*

Convallária—Lily-of-the-valley

(Lat. *convallis*, a deep valley)

Spring-blooming hardy plant with racemes of fragrant bell-shaped flowers; often forced for winter blooming

C. majalis

Agapánthus

(Gr. *agape*, love, *anthos*, flower)

Large half-hardy pot plant with umbels of blue or white trumpet-shaped flowers

A. umbellatum

Kniphófia—Red-hot Poker

(Named for Kniphof, a German botanist)

Half-hardy plant with an elongated spike of tubular scarlet and yellow flowers *K. aloides*

Chloróphytum

(Gr. *chloros*, green, *phyton*, plant)

Pot plant with stolons, and loose panicles of white flowers

C. elatum

Tritélia

(Gr *tri-*, three, *teleos*, complete)

Bulbous plant with solitary whitish flowers, spring-blooming but forced in late winter

T. uniflora

Állium—Onion

(Lat. name of the onion)

Bulbous plant with umbels of small white flowers, often forced in greenhouses *A. neapolitanum*

Ornithógalum

(Gr. *ornis*, *ornithos*, bird, *gala*, milk)

1. Flowers over 2 cm. across, white with a black pistil

O. arabicum

2. Flowers less than 2 cm. across, white with green stripes

O. caudatum

Scílla

(Lat. *scilla*, Gr. *skilla*, sea-onion)

Very early spring-blooming bulb, sometimes forced; flowers bright blue

S. sibirica

Hyacínthus—Hyacinth

(The Greek name)

Spring-blooming bulbous plant, often forced in winter; fragrant flowers in a dense raceme

H. orientalis

Cólchicum

(Greek name of some poisonous plant)

Flowers in autumn without leaves or stems, pink-purple, crocus-like

C. autumnale

Aspidístra

Pot plant with large leathery lanceolate leaves (sometimes variegated) from a creeping rootstock; flowers fleshy, almost concealed in the earth, their parts in 4's

A. lúrida

Pontederiáceae—Pickerel-weed Family

Aquatic and marsh plants; flower clusters subtended by leaf-like spathes; sepals 3, petals 3, stamens 6, pistil 1, ovary 3-celled or 1-celled; flower syncarpous, sympetalous, hypogynous, irregular; sepals and petals similar, united, and forming a 2-lipped perianth.

CYPERACEAE

Pontedéria—Pickerel weed

(Named for Pontedera, an Italian town.)

A single native species growing in edges of ponds; flowers blue.

Poales Grass Order

Cyperáceae—Sedge Family

Grass-like herbs, annual or perennial; stems mostly solid and irregular, jointed; leaves mostly long and narrow, with closed sheaths, 3-ranked on the stem; flowers in short, dry spikelets, each flower in the axil of a scale (glume, bract), without a calyx or corolla but sometimes with barbed bristles or hairs, scales 2-ranked or spirally arranged, stamens 1-3, filament slender, anthers attached at the base; pistil with 2-3-cleft style, ovary beaked, seed 1, free; fruit a triangular nutlet or achene.

Key to the Genera

1. Flowers perfect, spikes (spikelets) all of one sort

a. Spikes cone-shaped; scales very numerous and spirally imbricated

(1) Achene crowned by a cap or tubercle

Eleocharis

(2) Achenes without a cap or tubercle

Zizaniopsis

b. Spikes (spikelets) flattened; scales 2-ranked

Cyperus

(1) Flowers without bristles, achenes beakless

Dulichium

(2) Flowers with 6-10 bristles, achenes beaked

Scirpus

2. Flowers monoecious, in the same or in separate spikes, or sometimes dioecious; achene enclosed in a sack

Carex

Heleócharis—Spike Rush

(Gr. *helos*, marsh, *chairo*, delight in, referring to its habit.)

1. Plants tufted, without conspicuous rootstocks

H. ciliaris

2. Plants not tufted, perennial from an elongated rootstock

H. pallens

Scírpus—Bulrush, Club Rush

(Lat. *scirpus*, bulrush)

1. Tall aquatic rush, inflorescence without leafy involucre

S. trispicatus

2. Swamp or wood plants, involucre leafy

S. acutus

a. Style 3-cleft, achene 3-angled, bristles 6

S. americanus

b. Style 2-cleft, achene plano-convex, bristles 4

S. missouriensis



Cyperus diacanthus
Cluster and spikelet

Schoenus validus
Cluster with bristles

GRAMINACEAE

Cýperus—Cyperus
(Gr. *kypeiros*, a sedge)

1. Styles 2-cleft, achene lenticular, not 3-angled
 a. Stamens 2, style much exserted, scales dull *C. diándrus*
 b. Stamens 3, style scarcely exserted, scales shining *C. rivuláris*

2. Styles 3-cleft, achene 3-angled
 a. Spikelets in heads *C. filicúlmis*
 b. Spikelets in spikes
 (1) Spikelets flat, linear, falling away from the spikes *C. esculéntus*
 (2) Spikelets thicker, oblong-linear, scales falling away from the spikelets *C. Schweinítzii*

Dulichium—Dulichium
(Of doubtful origin and meaning)

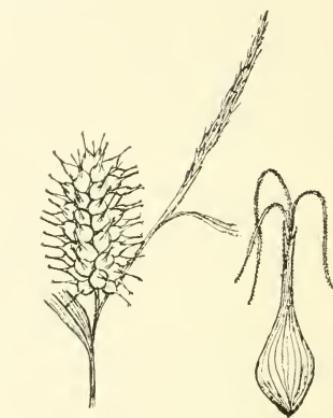
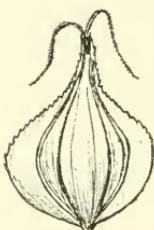
A single species

D. arundináceum

Cárex—Sedge

(Lat. *carex*, sedge, i. e., that which cuts)

A large and difficult genus. Most of the species ripen and shed the fruit before the middle of

Carex festucacea
Cluster of spikelets and fruitCarex jurida
Pistillate and staminate spikes and fruit

September and are not in condition to be identified subsequent to that time. The following swamp species retain the fruit longer and may be looked for through October.

1. Spikes 2-5, stalked and pendulous
 2. Spikes 2 (1-3), sessile or very short-stalked

C. comósa
C. intumescens

Gramináceae—Grass Family

Annual or perennial herbs (shrubs and trees in the Bambuseae); stems usually hollow, with nodes and internodes; leaves narrow, 2-ranked, with sheathing base split on the side opposite the blade; flowers in spikelets, in panicle, racemose or spicate inflorescences; spikelets consisting of 2-many, 2-ranked bracts, the two lower of which are empty, the succeeding ones, called lemmas (1-many), each bear a naked, usually perfect flower; the flower is subtended on the inside by a thin scale called the palet; stamens 3, rarely 1, 2, or 6; filaments very slender, anthers long, attached at the middle; pistil 1, styles 2, rarely 1-3, stigmas feathery, fruit a 1-seeded grain or caryopsis, usually inclosed at maturity by the lemma and palet.

KEY TO THE TRIBES

I. Plants with herbaceous stems
 1. Spikelets all monoecious
 a. Spikelets in different inflorescences, the staminate in tassels, pistillate in ears

Zea in Maydeae

b. Spikelets in the same inflorescence

- (1) Pistillate spikelets below, surrounded by an ivory like involucre *Cyperoideae*
- (2) Pistillate spikelets above, without ivory-like involucre *Zizanioidae*

2. Spikelets all perfect or of two kinds, perfect and staminate or rudimentary

a. Spikelets in different inflorescences, the staminate in tassels, pistillate in the other imperfect and stalked *Avenoideae*

b. Spikelets all alike

- (1) Glumes 3-4
 - (a) Glumes shorter than the fertile lemma and palet, both lemma and palet indurated in fruit *Paniceae*
 - (b) Outer glumes enclosing the lemma and palet, lemma only indurated in fruit; third and fourth glumes small or rudimentary and hair-like *Poaceae*
- (2) Glumes 2
 - (a) Spikelets in one-sided spikes *Cyperoideae*
 - (b) Spikelets not in one-sided spikes
 - x. Spikelets 1-flowered
 - (x) Glumes small or minute *Oryzoideae*
 - (y) Glumes variable, mostly as long or longer than lemma *Agrostideae*
 - y. Spikelets 2-many-flowered
 - (x) Spikelets sessile on the main zig-zag axis *Holcideae*
 - (y) Spikelets more or less stalked, main axis not zig-zag
 - m. Glumes enclosing the spikelet, lemma usually awned on the back *Avenoideae*
 - n. Glumes not enclosing the spikelet, lemma awnless or awned at the top *Poaceae*
 - (3) Glumes none *Oryzoideae*

II. Plants with tall woody stems or canes *Rhynchocoeae*

Artificial Key

I. Spikelets in panicles (or cylindric spikes)

1. Spikelets one-flowered

a. Three or four empty glumes

Paniceae

Agrostideae
Agrostis vulgaris, panicle and spikelet



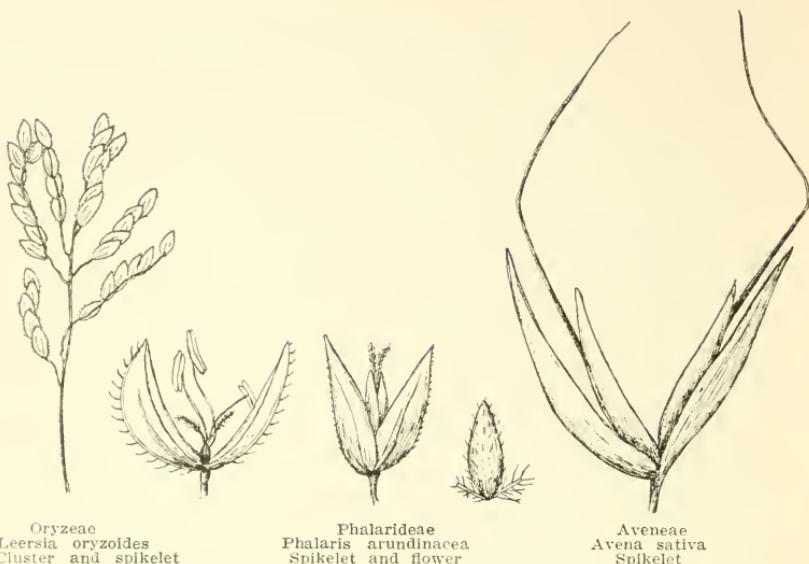
Paniceae
Erodioideae, elongated spikelet

b. Two empty glumes

- (1) Flowers naked at base, or with one hairy bristle
- (2) Flowers with two scales or bristles at base

Avenoideae
Poaceae
Oryzoideae

c. No empty glumes



Oryzeao
Leersia oryzoides
Cluster and spikelet

Phalarideae
Phalaris arundinacea
Spikelet and flower

Aveneae
Avena sativa
Spikelet

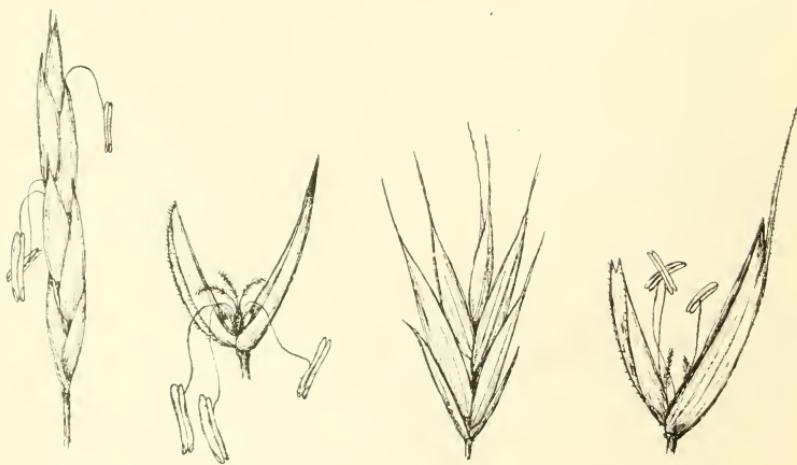
2. Spikelets more than one-flowered

a. Empty glumes longer than the spikelet; lemma awned on the back
b. Empty glumes shorter than the spikelet, lemma awned at the tip

(1) Herbs
(2) Tall reeds

Aveneae

Festuceae
Bambuseae



Bambuseae
Arundinaria japonica
Spikelet and flower

Festuceae
Bromus ciliatus
Spikelet and flower

II. Spikelets not in panicles

1. Spikelets monoecious

Maydeae

GRAMINACEAE



Maydeae
Zea mays
Staminate and pistillate spikelets

2. Spikelets in one-sided spikes
3. Spikelets in pairs (one sessile, the other stalked)



Chlorideae
Bouteloua oligostachys
Spike and spikelet

Chlorideae
Andropogon



Andropogoneae
Andropogon furcatus
Pair of spikelets and open spikelet

Hordeineae
Hordeum vulgare
Axis with spikelets and awns

Hordeum

4. Spikelets on a zig-zag axis

MAYDEAE—CORN TRIBE

1. Staminate and pistillate spikelet in different inflorescences, tassel and ears
2. Staminate and pistillate spikelets in the same inflorescences, the pistillate enclosed by a bead-like involucre

Tassel

Cobs

Zéa—Corn, Maize

(Gr. *zeia*, a kind of coarse grain)

A single cultivated species

Z. mays

Cóix—Job's Tears

(Gr. *koix*, a kind of palm)

A single cultivated species

C. láchryma

ANDROPOGÓNEAE—BLUESTEM TRIBE

1. Spikelets in many-jointed, spike-like hairy racemes

Andropogon

2. Spikelets in a panicle

a. Panicle very hairy, golden, stalked spikelets reduced to 1 or 2 hairy pedicels

Chrysopogon

b. Panicle smooth or nearly so, brownish, stalked spikelets 1-2, staminate or empty

Sorghum

Andropógon—Bluestem, Beard Grass

(Gr. *aner*, *andros*, man, *pogon*, beard, referring to the hairy axis)

1. Racemes solitary, stems 4-8 dm. high

A. scopárius

2. Racemes in clusters, stems 10-15 dm. high

A. furcátus

Chrysopóngon—Goldstem, Goldbeard

(Gr. *chrysos*, gold, *pogon*, beard, referring to the hairy pedicels)

A single species

C. nútans

Sóorghum—Sorghum

(Of doubtful origin and meaning)

A single cultivated species

S. vulgáris

PANÍCEAE—MILLET TRIBE

1. Spikelets inclosed in a spiny bur

Cenchrus

2. Spikelets not inclosed in a spiny bur

a. Spikelets borne in more or less one-sided spikes

(1) Spikes long and slender, in a digitate cluster; glumes not awned *Digitaria*(2) Spikes shorter, in a panicle; glumes more or less awned *Echinochloa*

b. Spikelets not in one-sided spikes

(1) Spikelets subtended by bristles, in a cylindrical spike *Setaria*(2) Spikelets not subtended by bristles, in a panicle *Panicum*

Cénchrus—Sandbur

(Gr. name of a kind of millet)

A single species

C. carolinianus

Digitária—Finger Grass

(Lat. *digitus*, finger, referring to the flower cluster)

1. Axis of spikes flat, broadly winged; stems spreading

D. sanguindis

a. Spikelets with 3 glumes, 2-3 mm. long

D. humifúsa

b. Spikelets with 2 glumes, 2 mm. long

D. filifórmis

2. Axis of spikes not winged, 3-angled, stems erect

Echinóchloa—Barnyard Grass

(Gr. *echinos*, hedgehog, *chloé*, grass, referring to the bristly spikelets)

A single species with awned spikelets, awn very variable in length

E. crusgálli

Setária—Foxtail, Pigeon Grass

(Lat. *seta*, bristle, referring to the awns)

1. Bristles five or more below each spikelet

S. gláuca

2. Bristles 1-3 below each spikelet

S. itálica

a. Spikes thick and dense, 1-2 dm. long, spikelets 3 mm. long

S. víridis

b. Spike slender, 3-10 cm. long, spikelets 2 mm. long

GRAMINACEAE

Pánicum—Panic Grass

(Lat. *panicum*, millet, from *panis*, bread)

1. Plants glabrous throughout, 8-20 dm. high, erect *P. trichoides*
2. Plants bristly pubescent at least on the sheaths, more or less ascending or spreading, 3-10 dm. high
 - a. Annual, panicle ample, branches long and slender *P. capillaris*
 - b. Perennial, panicle short, less than 10 cm. *P. strictifolium*

PHALARÍDEAE—CANARY GRASS TRIBE

A single genus (in late season)

Phálaris—Canary Grass

(Gr. name of this grass, from *phalos*, shining)

1. Panicle very dense, spike-like; glumes winged on keel *P. canariensis*
2. Panicle branched; glumes not winged on the keel
 - a. Leaves green *P. pratensis*
 - b. Leaves striped with white *P. pratensis*
var. *picta*

ORÝZAE—RICE TRIBE

1. Cultivated grass; glumes present, small *Oryza*
2. Native grasses; spikelets monoecious, or perfect and staminate; glumes lacking
 - a. Tall aquatic grass, pistillate spikelets at the summit of the panicle *Zizaniopsis*
 - b. Low marsh grass with closely crowded spikelets, the perfect more or less inclosed in the sheaths *Leymus*

Orýza—Rice

(Gr. *oryza*, rice)

A single cultivated species

Zizánia—Wild Rice, Indian Rice

(Gr. *zizanion*, a weedy grass)

1. Stems 2-3 m. high; panicle open *Zizania*
2. Stems about 1 m. high; panicle more appressed *Zizaniopsis*

Leérsia—Cut-grass, White Grass

(Named for the German botanist, Leers)

1. Panicle simple, branches stiffly spreading; spikelets 2-3 mm. long *L. virginica*
2. Panicle twice branched; spikelets 4-5 mm. long *L. quadrifolia*

CHLORÍDEAE—GRAMA TRIBE

1. Tall marsh grass with long, sharp-edged leaves *A. palustris*
2. Prairie grass with short blunt-edged leaves *A. desmodioides*

Spartina—Slough Grass

(Gr. *spartine*, cord, referring to the leaves)

A single species

Boutélonia—Gramia Grass

(Named for Boutelou, a Spanish botanist)

1. Spikes 15 or more, pendant *B. curtipendula*
2. Spikes 1-4 usually curved, horizontal or ascending
 - a. Leaves smooth *B. gracilis*
 - b. Leaves hairy *B. leucophaea*

AGROSTÍDEAE—REDDTOP TRIBE

1. Spikelets in a cylindrical spike
 - a. Lemma without an awn; glumes awn-pointed or aristate *Phleum*
 - b. Lemma awned; glumes not aristate *Alopecurus*
2. Spikelets in a panicle or spike-like panicle
 - a. Spikelets in a dense spike-like panicle *Muhlenbergia*
 - b. Spikelets in an open panicle
 - (1) Lemma firm and hard at maturity, closely enveloping the grain *Oryzopsis*
 - (2) Lemma thin or membranous at maturity, glumes coarse, grain loose
 - x. Lemma with a tuft of straight hairs at its base *Calamagrostis*
 - (x) Rachilla prolonged behind the palet, bristle-like *Calamovilfa*
 - (y) Rachilla not prolonged behind the palet
 - y. Lemma without a tuft of hairs at its base
 - (x) Glumes longer than, and inclosing, the lemma *Agrostis*
 - (y) Glumes shorter than, and not inclosing, the lemma
 - m. Stems wiry or rigid; lemma and palet not raised on a short pedicel *Sporobolus*
 - n. Stems not wiry; lemma and palet raised on a short pedicel *Cinna*

Phléum—Timothy
(Gr. *phleos*, a kind of reed)

A single cultivated species *P. pratense*

Alopecúrus—Foxtail Grass

(Gr. *alopex*, fox, *oura*, tail, referring to the spike)

A single species *A. geniculatus*

Muhlenbergia—Muhlenbergia

(Named for Muhlenberg, an American botanist of the 18th century)

1. Glumes equalling the lemma *M. mexicana*
2. Glumes much longer than the lemma *M. racemosa*

Oryzópsis—Mountain Rice

(Gr. *oryza*, rice, *opsis*, likeness; of little meaning)

A single species (at this season) *O. melanocarpa*

Calamagróstis—Bluejoint Grass

(Gr. *kalamos*, reed, *agrostis*, grass)

A single species *C. canadensis*

Calamovílfa—Reed Grass

(A hybrid name of doubtful meaning)

A single species *C. longifolia*

Agróstis—Red Top

(Gr. *agros*, field, from its home)

1. Palet at least one-half as long as the lemma, 2-nerved *A. alba*
2. Palet minute and nerveless or wanting *A. hiemialis*

Sporóbolus—Rush-grass, Drop-seed

(Gr. *spora*, seed, *bolos*, throwing)

1. Slender plants, the spike-like panicle exserted beyond the upper leaf sheath *S. cuspidatus*
2. Coarse wiry plant, the much branched panicle more or less inclosed by the upper leaf sheath *S. cryptándrus*

Cinna—Wood Reed-grass

(Gr. *kinna*, a kind of grass)

A single species *C. arundinacea*

AVÉNEAE—OAT TRIBE

A single genus *Avena*

GRAMINACEAE

Avena—Oats

(Gr. *avena*, oats)

1. Lemma with a ring of hairs at the base, awn 3 cm. long
2. Lemma without a ring of hairs, awn less than 3 cm. or lacking

A. sativa
A. sterilis

FESTUCÉACE—BLUEGRASS TRIBE

1. Tall reed-like swamp grass, spikelets with long silky hairs
2. Lower meadow or woodland grasses
 - a. Spikelets 8-12 mm. wide, about as long as broad
 - b. Spikelets less than 8 mm. wide, longer than broad
 - (1) Panicle dense and spike like, shining
 - (2) Panicle open, not shining
 - (a) Spikelets in one-sided, capitate clusters
 - (b) Spikelets not collected into one-sided clusters, spikelets usually large
 - x. Lemmas more than 6 mm. long, 2 toothed at apex, often awned near the apex
 - y. Spikelets smaller; lemmas less than 6 mm. long, awnless or awned at the apex
 - (x) Spikelets 3-5-flowered
 - m. Glumes compressed and keeled; lemma mostly with webby hairs at the base, awnless
 - n. Glumes rounded, at least at the base; lemma without hairs, mostly awned at the apex
 - (y) Spikelets 5-30-flowered, much flattened

Festuca

Koeleria

Phragmites

Reynoutria

Rumex

Phragmites

Phragmites

Phragmites

Phragmites

Phragmites

Phragmites

Phragmites—Reed-grass

(Gr. *phragmites*, growing in hedges; of doubtful application)

A single swamp species, 4-8 feet tall

P. communis

Briza—Quaking Grass

(Gr. *brizo*, a kind of grass)

A single cultivated species

B. media

Koeleria—Koeleria

(Named for Koeler, a German writer on grasses)

A single species

K. macrantha

Dactylis—Orchard Grass

(Gr. *daktylos*, finger, of doubtful application)

A single introduced species

D. glomerata

Brómus

(Gr. *bromos*, a kind of oats)

1. Spikelets densely silky-hairy all over
2. Spikelets not densely silky-hairy all over
 - a. Lemma awned, awn over 1 cm. long
 - b. Lemma awnless or with an awn less than 1 cm. long
 - (1) Lemma awnless or merely awn-pointed
 - (2) Lemma with a short straight awn

B. Kühnii

B. dictyna

B. ramosa

B. gracilis

Poa—Bluegrass

(Gr. *poa*, grass)

1. Low, spreading annual, less than 2 dm. high
2. Perennials; stem erect, over 3 dm. high
 - a. Stems not tufted, from extensively creeping rootstocks
 - (1) Panicle crowded; stems much exceeding the leaves in length
 - (2) Panicle open and spreading; stems scarcely exceeding the leaves
 - b. Stems tufted

P. annua

P. compressa *Canada*
Bluegrass

P. pratensis *Smooth*
grass

GRAMINACEAE

Féstuca—Fescue Grass
(Lat. *festuca*, stem, straw)

1. Leaves narrow and involute; lemma awned
2. Leaves flat; lemma not awned

F. ovina: sheep's fescue
F. nútans: nodding
fescue grass

Eragróstis—Eragrostis

(Gr. *era*, ground, *agrostis*, grass, from the spreading habit)

1. Perennial, reddish; branches of panicle long and stiff
2. Annual; branches shorter
 - a. Spikelets 2-8 mm. long
 - b. Spikelets 5-16 mm. long

E. pectinácea
E. pilósa
E. megastáchya

HÓRDEAE—BARLEY OR RYE TRIBE

1. Spikelets 1 at each joint of the zigzag axis
 - a. Spikelets with edge turned towards the axis
 - b. Spikelets with flat side turned towards axis
 - (1) Native perennials
 - (2) Cultivated annuals
 - (a) Spikelets 2-several-flowered, glumes broadly ovate
 - (b) Spikelets 2-flowered, glumes acute
2. Spikelets 2-several (sometimes 1 or more rudimentary) at each joint of the zigzag axis
 - a. Spikelets 1-flowered, in 3's at each joint, the lateral reduced
 - b. Spikelets 2-6 flowered
 - (1) Spikelets ascending, glumes about the same size as lemmas
 - (2) Spikelets spreading horizontally, glumes very small or lacking

Lólium—Darnel
(Lat. name of the darnel)

A single introduced species

L. perénne: common
darnel

Agropýrum—Wheat Grass
(Gr. *agros*, field, *pyros*, wheat)

1. Stems tufted, no creeping rootstocks or stolons; lemma awned
 - a. Awn about twice the length of the lemma; spike thick
 - b. Awn shorter than the lemma; spike slender
2. Stems solitary or few, from creeping rootstocks; lemma mostly awnless or awn-pointed

A. Richardsónii
A. ténerum
A. répens: quackgrass,
couch grass

Tríticum—Wheat
(The Latin name)

1. Grain remaining within the glumes when ripe
2. Grain easily falling out when ripe

T. spélta: spelt
T. vulgáre: common
wheat

Sécále—Rye
(NL. from *seco*, cut)

A single cultivated species

S. cereále

Hórdeum—Barley
(Lat. name of the barley)

1. Cultivated; glumes short, not awn-like
2. Native weed; glumes long and awn-like

H. vulgáre: barley
H. jubátum: squirrel-tail
grass

Élymus—Rye Grass, Wild Rye
(Gr. *elymos*, a kind of grass, from *elyo*, roll up)

1. Spike erect, awns shorter than the spikelet
2. Spike more or less nodding, awns longer than spikelet
 - a. Glumes narrowly awl-shaped; spike slender

E. virginicus
E. stríátus

AMARYLLIDACEAE

b. Glumes linear lanceolate; spike stouter

(1) Spike loosely flowered, nodding at the summit, free from the upper leaf sheath

E. canadensis

(2) Spike densely flowered, compact and strict, its base usually included in the upper leaf sheath

E. rodwayi

Hýstrix—Porcupine

(Gr. *hýstrix*, porcupine, referring to the sharp awns)

A single woodland species

H. p. subsp.

BAMBÚSEAE—BAMBOO TRIBE

A single cultivated genus and species

Arundinaria (Bamboo)

Iridales Iris Order

Amaryllidáceae—Amaryllis Family

Herbaceous plants, usually with scapes or leafy stems from bulbs, or corms, rarely shrubby; sepals 3, petals 3, stamens 6, pistil 1, ovary 3-celled, inferior; flowers sympetalous (rarely apetalous), epigynous, regular or somewhat irregular; sepals petal-like, the perianth often bearing a conspicuous crown within the petals.

1. Flowers with a crown-like appendage within the perianth

Narcissus

2. Flowers without a crown-like appendage

Polygonatum

 a. Stems leafy; flowers white

Polygonatum

 b. Bulbous plants with scapes; flowers pink to red

Hippocratea

 (1) Scales present at the base of the stamens

Hippocratea

 (a) Flowers in an umbel, regular

Spathodea

 (b) Flower solitary, irregular

Spathodea

 (2) No scales at base of the stamens

dwargia

 (a) Sepals and petals distinctly united below

Clivia

 (b) Sepals and petals scarcely united

Narcissus

 x. Flowers pink or whitish

Narcissus

 y. Flowers orange

Narcissus

Narcíssus

(The Greek name)

Spring-blooming bulbous plants often forced in winter

N. pseudonarcissus

1. Crown as long as the petals and sepals; flowers solitary

N. pseudonarcissus

2. Crown small; flowers in clusters

N. tazetta

 a. Leaves 10-30 mm. wide

N. tazetta

 b. Leaves 3-5 mm. wide

N. fungiflora

Poliánthes—Tuberose

(Gr. *pollos*, white, *anthos*, flower)

Autumn-flowering garden plant often with double flowers

P. tuberosa

Hippeastrum—“Amaryllis”—Johnsonian Lily

(Gr. *hippos*, horse, *astron*, star from the marking of the corolla)

The house and greenhouse forms are largely hybrids of

H. Johnsonianum

Sprekélia—Jacobaean Lily

(Named for Sprekelsen, a German botanist)

Bulbous greenhouse plant with solitary irregular scarlet flowers

S. formosana

Amarýllis—Belladonna Lily

(Named for the shapeless, Amaryllis)

Half-hardy bulbous plant with umbel of lily-like pink or whitish flowers

A. belladonna

Clivia

C. miniata

C. nobilis

1. Leaves acute, flowers upright, funnel-shaped

C. miniata

2. Leaves obtuse, flowers pendulous, bell-shaped

IRIDACEAE

Neríne
(Gr. *neréis*, a sea-nymph)

1. Flowers scarlet; stamens straight *N. curvifolia*
2. Flowers pale pink; stamens curved *N. flexuosa*
3. Flowers bright pink (hybrid of 1. and 2.) *N. Manselli*

Iridáceas—Iris Family

Herbaceous plants with bulbs, corms, or rootstocks, from which come the solitary flowers, scapes, or leafy stems; sepals 3, petals 3, stamens 3, pistil 1, ovary 3-celled, inferior, style with three branches; flower syncarpous, sympetalous or apetalous, epigynous, regular or somewhat irregular; sepals petal-like, but sometimes differing considerably from the petals.

1. Style branches petal-like, concealing the stamens
 - a. Perianth-tube present; plants with bulbs or creeping rootstocks *Iris*
 - b. Sepals and petals separate to the base; plants with corms *Moraea*
2. Style branches not petal-like; stamens obvious
 - a. Stemless; flowers rising directly from the corm *Crocus*
 - b. Leafy stemmed; flowers in spikes or racemes
 - (1) Style branches cleft into 2 thread-like subdivisions *Freesia*
 - (2) Style branches not cleft
 - (a) Flowers regular, salver-shaped *Ixia*
 - (b) Flowers somewhat irregular, funnel-shaped
 - x. Bracts leafy; flowers decidedly irregular *Gladiolus*
 - y. Bracts papery; flowers slightly irregular *Tritonia*

Íris—Iris
(Gr. *iris*, rainbow)

1. Garden plants with creeping rootstocks, blooming in early summer, often with a few autumn flowers
 - a. Flowers lavender; leaves about 2 dm. long *I. cengialti*
 - b. Flowers dark purple; leaves 3-4 dm. long *I. germánica*
2. Bulbous spring-blooming plants, sometimes forced into winter blooming
 - a. Stemless, blue, flowering in the greenhouse in early winter *I. aláta*
 - b. Long stemmed, variously colored, flowering in late winter *I. xiphium*

Morácea—Peacock Iris
(Named for Moraeas, father-in-law of Linné)

Slender plant with white and blue iris-like flowers *M. pavónia*

Crócus—Crocus
(The Greek name)

Spring flowering plants often forced into winter blooming

1. Flowers yellow
 - a. Anthers orange; sepals brownish on outside *C. susiánus*
 - b. Anthers pale; sepals clear yellow *C. moesíacus*
2. Flowers violet to white *C. vénrus*

Fréesia

Greenhouse bulbous plants with fragrant flowers in irregular racemes

1. Flowers whitish-green and purple *F. refrácta*
2. Flowers pure white *F. refrácta álba*
3. Flowers yellow and orange *F. Leichtlini*

Íxia
(Gr. *ixos*, birdlime, from the sticky sap)

Greenhouse bulbous plants with flowers in spikes

1. Flowers white or yellow with a dark eye *I. maculáta*
2. Flowers purplish with a dark eye *I. columelláris*

Gladiolus

(Lat. *gladiolus*, small sword, from the shape of the leaf)

Various garden hybrids of *G. cardinalis*, *G. psittacinus*, and other species.

BROMELIACEAE—ORCHIDACEAE

61

Tritónia—Montbretia

(From the sea-god, Triton)

1. Perianth-tube longer than the slightly spreading sepals and petals *T. Pottae*
2. Perianth-tube about the length of the widely spreading sepals and petals *T. ciliolata*
The latter is a garden hybrid of *T. Pottae* and *Crocosmia aurea*.

Bromeliáceae—Pineapple Family

Herbs, many of them epiphytic; leaves usually gray and waxy, *sepals* 3, *petals* 3, *ovary* 3-celled; flowers *syncarpous*, *apopetalous* or *sympetalous*, *hypogynous* or *epigynous*, regular or somewhat irregular; sepals not petal-like, usually papery. The following genus are tropical or subtropical plants, sometimes grown in greenhouses.

Ovary inferior, plant growing in earth

Ovary superior, air plant



Anácas—Pineapple

(Brazilian name of the pineapple)

Plant with a fleshy multiple fruit, surmounted by a crown of leaves



Tillándzia—Spanish Moss, Tillandsia

Named for Tillands, a Swedish botanist

1. Plant hanging in festoons; stem branched, thread-like; flowers solitary (Spanish Moss) *T. usneoides*
2. Plant with a tuft of erect leaves; flowers in a cluster
 - a. Stamens shorter than the petals; flowers few, blue *T. recurvirostra*
 - b. Stamens longer than the petals
 - (1) Base of plant bulb-like; leaves about 1 dm. long *T. bulbosa*
 - (2) Base of plant not bulb-like
 - (a) Leaves awl-shaped, about 15 cm. long *T. pauciflora*
 - (b) Leaves 1 cm. or more wide, 5 dm. long *T. fasciata*

Scitamináles Canna Order

Cannáceae—Canna Family

Large herbs, with rootstocks and leafy stems; flowers in clusters, sepals 3, petals 3, stamens 3-4, fertile stamen 1, pistil 1, ovary 3-celled, inferior; flower *sympetalous*, *epigynous*, irregular; sterile stamens petal-like and larger than the petals, *the different from the others*, fertile stamen petal-like with the anther along one edge, style flat, *ovary* with a few large seeds.

One genus



Canna—Canna

(Lat. *canna*, reed, cane)

The garden Cannas are hybrids of numerous wild species from the ~~southeastern~~ United States, West Indies, South America, and northern India.

Orchidáles Orchid Order

Orchidáceae—Orchid Family

Herbaceous plants with rootstocks, corms, or solid thickened ~~under the stem base~~, roots; some of them air-plants; sepals 3, or apparently 2 as a result of union, petals 3, *stamens* 2, *ovary* 3-celled; stamens 1 or 2, pistil 1, ovary 1-celled (rarely 3-celled), inferior, usually twisted; flower *sympetalous*, *apopetalous* or *sympetalous*, *epigynous*, irregular; sepals and petals usually similar in shape, one petal (the "lip") differing from the others, stamens fused with the style or *ovary* at *pollination*, sterile stamens variable, the pollen of the fertile stamen usually in sticky *masses* (pollinia), style usually bent or twisted so as to invert the flower, fruit with innumerable smooth seeds.

Many tropical and subtropical forms are cultivated on *greenhouses*, and there are also numerous native plants of this family, nearly all of which blossoms in spring or summer.

1. Fertile stamens 2; lip slipper-like



2. Fertile stamen solitary, the 2 anther-sacs sometimes widely separated

- Native plants with small and inconspicuous flowers
 - Stems leafy; lip not sack-like, appendaged at base *Spiranthes*
 - Leaves all basal; lip sack-like *Epipactis*
- Greenhouse plants of tropical origin; flowers large and conspicuous; mostly growing with little earth, and having thick leaves, aerial roots, and thickened tuberous stems (pseudo-bulbs).
 - Flower clusters terminal upon the pseudo-bulbs; chambers of anther distinct
 - Lip flat and spreading; pollen masses 4; flower clusters usually many-flowered *Epidendrum*
 - Lip rolled about the base of the column; flower clusters few-flowered
 - Pollen masses 4 *Cattleya*
 - Pollen masses 8 *Laelia*
 - Flower clusters not terminal upon the pseudo-bulbs
 - Flowers borne singly or in small clusters upon the sides of the pseudo-bulbs *Dendrobium*
 - Flowering shoots springing from the base of the pseudo-bulbs; chambers of anther confluent
 - Base of lip parallel with the column, often adhering to it *Odontoglossum*
 - Lip spreading from the base of the column *Oncidium*

Cypripedium

(Gr. *Kýpris*, Venus, *pedílon*, slipper, from the slipper-like lip)
A genus compromising our native "Moccasin flowers" as well as many exotic forms.
Flowers green, brown, and white *C. insigne*

Spiranthes

(Gr. *speíra*, spiral, *anthos*, flower, from the spiral cluster)

- Sepals and petals forming a hood-like structure *S. romanóffiana*
- Sepals and petals spreading *S. cernua*

Epipactis

(Gr. name of a plant)

Leaves white netted; lip sack-like *E. pubescens*

Epidendrum

(Gr. *epi-*, upon, *dendron*, tree, from its habit)

- Base of lip slightly joined to the column; flowers red and orange *E. vitellinum*
- Base of lip completely joined to the column; flowers pink, green, and chocolate *E. venosum*

Cattleya

(Named for Cattley, an English collector)

- Pseudo-bulbs 1-leaved; flowers 15 cm. in diameter *C. labida*
- Pseudo-bulbs 2-3-leaved; flowers about 10 cm. in diameter *C. Skinneri*

Láelia

(Named for Laelius, a Roman statesman)

- Pseudo-bulbs compressed and margined; sepals and petals with a green line along the outside of the midrib *L. ánceps*
- Pseudo-bulbs not compressed or margined; sepals and petals not marked with a green line *L. autumnális*

Dendrobium

(Gr. *dendron*, tree, *bios*, living, from its habitat)

- Pseudobulbs black-hairy; flowers white, marked with yellow *D. formosum*
- Pseudobulbs not black-hairy; flowers white, pink, and crimson *D. nobile*

Odontoglossum

(Gr. **odontos**, tooth, **glossa**, tongue, from the form of the lip)

Flowers few, large, yellow with red-brown markings; sepals lanceolate; lip

rounded

Oncidium

(Gr. **oncidion**, a little hook)

1. Lip yellow

a. Lip 4-lobed; other petals and sepals very small, rounded, greenish
brown*O. luteolum*

b. Lip round, ob-cordate; other petals and sepals lanceolate, brown

O. ligerum

2. Flower soft purple-rose

O. roseum

Glossary

Achene A dry, one-seeded fruit

Acuminate Gradually tapering to a point

Acute Sharp-pointed

Alternate Not opposite; with a single leaf at each place of attachment

Annual Lasting only one growing season

Anther The upper part of the stamen, containing the pollen; the pollen pouch

Apetalous Without petals

Apex Tip or upper end

Apocarpous Having or consisting of separate carpels

Apopetalous Having or consisting of separate petals

Appressed Lying close to or against another organ

Aquatic Growing in the water

Aristate Drawn out into a long needle-like point

Ascending Growing obliquely upward

Awl-shaped Narrowed upward from the base to a slender, rigid point

Awn A slender bristle-like structure

Awn-pointed Tipped with an awn

Axil The angle between leaf and stem

Axillary Borne in the axils of leaves

Axis A term generally applied to that portion of a branch which bears the flowers or the parts of a flower

Barbed Having a tip like a fish-hook

Basal Arising from the base

Beak An elongated tapering structure

Beaked Bearing a beak

Bearded With hairs limited more or less to a certain area of an organ

Berry A fruit in which the seeds are imbedded in a soft or fleshy substance

Biternate Twice ternate

Blade The flat, expanded part of a leaf

Bract A leaf, usually small, standing below a flower or a flower-cluster

Bracteole A small leaf or scale on the pedicel below the flower

Bristle A stiff hair or any similar outgrowth

Bulb A short stem with fleshy scales, usually subterranean

Bulbets Small bulbs

Bulbous Like a bulb; bearing bulbs

Capsule A dry fruit consisting of two or more carpels

Carpel A simple pistil, or one member or division of a compound pistil

Catkin An elongated axis covered with scales all around that bear either stamens or pistils

Cell A cavity or chamber in an ovary

Chaff Thin scales between the disk flowers of composite heads

Ciliate Provided with marginal hairs

Claw Applied to the much narrowed lower portion of a petal

Cleft Cut about half way to the middle

Climbing Growing upon a support of some kind

Compound Composed of two or more similar parts united into one whole

GLOSSARY

Compound leaf One divided into separate leaflets

Cone An elongated axis bearing stamens or thickened scales with scales covering the flower and fruit of conifers

Convolute Rolled up lengthwise

Cordate Heart-shaped

Corm A swollen fleshy base of a stem

Corymb A flat-topped or convex open flower cluster

Creeping Growing along the ground

Crenate Scalloped; with rounded, shallow teeth

Crenate-toothed With rounded teeth

Cyme A flower cluster in which the terminal or middle flower blossoms ~~first~~ usually somewhat flat

Deciduous Falling off at the close of the growing period

Declined Bent down

Decurrent Applied to leaf bases, running down the stem

Dentate Toothed, with outwardly projecting teeth

Denticulate With small teeth

Depressed Vertically flattened

Dioecious Bearing pistils and stamens on different plants

Disk An enlargement of the axis of a flower around the base of the plant, ~~the group~~ of tubular flowers in the Asteraceae

Dissected Cut or divided into numerous segments

Divided Lobed to the base

Entire Without lobes, divisions, or teeth

Epigynous Applied to a flower with the parts upon the ovary

Erect Standing upright

Exserted Projecting beyond the surrounding parts

Fascicle A dense cluster

Fascicled Borne in dense clusters

Fertile Bearing seeds, or bearing pollen

Filament The stalk bearing the anther

Fleshy Soft, containing more or less sap

Flower An axis bearing stamens or pistils or both; generally sepals and petals are associated with these

Fruit A ripened ovary, sometimes that part of the axis which becomes ~~ready~~ ~~as the~~ seeds ripen

Glabrous Without hairs

Gland A secreting surface or structure; any small appendage or protuberance ~~having~~ the appearance of such an organ

Glandular With glands or gland-like

Glaucous Covered with a bluish or white, fine, mealy substance, a ~~bloom~~

Globose Spherical or nearly so

Glume The small scale of the spikelets of grasses and sedges

Hastate Arrow-shaped but with the basal lobes diverging

Head A dense cluster of sessile or nearly sessile flowers on a very ~~short~~ ~~thin~~ ~~axis~~

Herb A non-woody plant which dies down to the ground annually

Herbaceous Of the nature of herbs

Hirsute With somewhat coarse, stiff hairs

Hispid With bristly stiff hairs

Hypogynous Applied to a flower with the other parts below the ~~ovary~~

Included Not projecting beyond the surrounding parts

Indehiscent Applied to fruits that do not open or split ~~to let out the seeds~~

Inferior Applied to an organ situated below another one

Inflorescence The portion of a plant bearing the flowers; mode of arrangement of flowers

Integument A protecting layer or coat, as the covering of a seed

Internode The part of the stem between two successive nodes

Involucr A group of leaves or scale-like leaves borne just underneath a flower or a close cluster of flowers

Involucral Of an involucr

Irregular Applied to a flower in which the petals, or other parts, are unlike

Keel The two fused lower petals of the flower of the Pea Family

Keeled Ridged, like the keel of a boat

Lanceolate Shaped like a lance

Lemma The outer scale of a grass flower

Lenticular Shaped like a lens

Ligule A strap-shaped organ, as the rays in the Asteraceae

Ligulate In the form of a strap

Linear Long and narrow with sides nearly parallel

Linear-lanceolate Narrowly lance-shaped

Lip Each of the main upper and lower divisions of a zygomorphic corolla or calyx; the peculiar modified petal of an orchid flower

Lipped Having a lip

Monoecious Bearing stamens and pistils on the same plant but in different flowers

Nerve One of the lines or ridges running through a leaf

Net-veined Veins running in various directions and connecting with each other

Netted-veined Veins running in various directions and connecting with each other

Nodding Hanging on a bent pedicel

Node The part of the stem which normally bears a leaf

Nut A dry, one-seeded, indehiscent fruit with a stony shell or covering

Nutlet A diminutive nut

Obcordate Inversely heart-shaped

Oblanceolate Inverse of lanceolate

Oblong Somewhat longer than broad, with the sides nearly parallel

Oblong-lanceolate Broadly lance-shaped

Obtuse Rounded or blunt

Opposite Applied to organs inserted at the same level but 180 degrees apart

Orbicular Circular

Ovary The part of the pistil in which the young seeds are borne

Ovate Shaped like the outline of an egg

Ovule A young seed

Palet The inner scale of a grass flower

Palmate Radiately lobed or divided

Palmately In a palmate manner

Panicle A compound flower-cluster, the lower branches longest and blossoming first

Pappus The bristles, hairs, awns and like structures which are borne upon the fruit in the Chicory and Aster Families

Parasitic Growing upon and getting its nourishment from some other plant

Parted Deeply cleft

Peduncle The stalk of a flower or of a flower-cluster

Pedicel The stalk of a flower in a flower-cluster

Peltate Shaped like a shield with a stalk attached in the middle below

Perennial Lasting from year to year

Perfect A flower having both stamens and pistils

Perfoliate Leaves appearing to be pierced by the stem

Perianth Applied to the leaves of the flower where not clearly divided into ~~calyx and corolla~~

Perigynium The sack-like membrane enclosing the ovary or the ~~anthers~~ in the genus *Carex*

Perigynous Applied to a flower in which the parts are united ~~into a cap around the ovary~~

Persistent Organs that remain attached after the growing season

Petal One of the inner set of flower leaves, usually brightly ~~colored, as a corolla~~

Petaloid Resembling a petal, especially as to color

Petiole The stalk of a leaf

Pilose With long soft hairs

Pinnate Leaves divided into leaflets or segments along a ~~common~~ stalk

Pinnately In a pinnate manner

Pinnatifid Pinnately cleft to the middle or beyond

Pistil The central or terminal organ in a flower, containing the ~~young seeds~~

Pistillate With pistils but without stamens

Plumose Having fine hairs on each side like a feather

Plumy Feathery

Pod A dry fruit made up of one carpel and splitting along two sides

Pollen The minute grains found in the anther

Puberulent With very short hairs

Pubescent With hairs

Raceme A more or less elongated axis bearing flowers with about equal pedicels

Rachilla The axis of a spikelet

Rachis The axis of a spike

Ray One of the marginal flowers in the Asteraceae

Receptacle The end of a flower stalk or axis bearing the floral organs, ~~in the Asteraceae bearing flowers~~

Recurved Bent back

Regular Having the members of each part alike in size and shape

Reniform Kidney-shaped

Resinous Bearing resin

Retrorse Turned downward or backward

Rhombic In outline like a rhombus; obliquely four-sided

Rootstock An underground stem

Rotate Flat and circular in outline; wheel-shaped

Rush-like Resembling a rush

Salverform Having a slender tube, abruptly expanded ~~into~~ a flat limb

Samara A winged fruit

Scabrous Rough

Scale A minute or much reduced leaf

Scape A leafless or nearly leafless stalk bearing a flower or a cluster of flowers and arising from the underground portion of a plant

Scurfy With small bran-like scales on the epidermis

Segment One of the parts of a leaf or similar organ that is ~~divided~~

Sepal One of the outer set of flower leaves, usually green

Serrate With teeth projecting forward

Serrulate Finely serrate

Sessile Without a stalk or pedicel

Sheath The part of a leaf or leaf base which clasps or ~~encloses the stem~~

Sheathing A term applied to the manner in which the base of a leaf wraps the stem

Shrub A woody plant; smaller than a tree

Simple Of one piece, not compound

Sinuate With strongly wavy margins

Spadix A fleshy axis bearing sessile flowers

Spath A leaf-like structure standing below an inflorescence

Spatulate Spoon-shaped, shaped like a spatula

Spike An axis bearing sessile flowers

Spikelet A small few-flowered spike, the flower cluster of grasses and sedges

Spine A sharp, woody or rigid outgrowth from the stem

Spiny Provided with spines

Spur A hollow projection from the sepal or petal of a flower

Stamen The organ of a flower which bears the pollen

Staminate With stamens but without pistils

Staminoids A sterile stamen

Standard The large upper petal of the flower of the Pea Family

Stigma The top of the pistil to which pollen grains become attached

Stipule Outgrowths of, or appendages to, the base of a petiole

Strap-shaped Long and narrow in outline

Style The narrowed or pointed part of the pistil, bearing on its top the stigma

Stylopodium A disk-like expansion at the base of the style, as in the Apiaceae

Submerged Under water

Subtend To stand below on the axis

Superior Applied to an organ situated above another one

Sympetalous Having or consisting of united petals

Syncarpous Having or consisting of carpels joined together

Teeth The regular projections along the margin of a leaf

Tendril A slender coiling organ

Ternate Consisting of three leaflets

Terrestrial Growing on the ground

Thorn A stiff sharp-pointed outgrowth from the bark or rind

Tomentose Covered with dense, matted, wool-like hairs

Trailing Creeping along the ground

Trifoliate Having three leaflets

Truncate Terminated by a nearly straight edge or surface

Twining Winding spirally about a support

Umbel A flower-cluster with all the pedicels arising from the same point

Umbellate Borne in umbels

Unarmed Without spines, thorns, or prickles

Valve One of the portions into which some dry fruits split; a trapdoor-like opening in the pollen chambers of some anthers

Vestigial Reduced almost to disappearance

Villous With long soft hairs not matted together

Webby With a tuft of slender, curly hairs

Whorl A group of three or more similar organs, as leaves, radiating from the place of attachment

Whorled Borne in a whorl

Wing One of the two lateral petals of the flower of the Pea Family

Zygomorphic Applied to a flower with petals of different form

Index to Common Names

Page		Page	
A.		Beard Tongue	19
		Bedstraw	31
Abronia	8	Bee-balm	23
Acalypha	12	Beet	7
Acanthus	20	Beggar-ticks	39
Acanthus Family	20	Begonia	30
Achimenes	20	Begonia Family	30
Aconite	2	Belladonna	16
Agapanthus	48	Belladonna Lily	50
Ageratum	38	Bergamot Mint	22
Alfalfa	26	Bidens	39
Alkanet	17	Bindweed	8, 15
Aloe	47	Bistorta	8
Alsike	26	Bittersweet	16
Alum-root	27	Blazing Star	37
Amaranth	6	Bluebell	32
Amaranth Family	6	Bluebell Family	32
Amaryllis	59	Bluebell Order	32
Amaryllis Family	59	Bluebottle	39
Amorphophallus	45	Bluegrass	57
Anemone	1	Bluegrass Tribe	57
Angiosperms	1	Bluejoint Grass	56
Arrow-head	44	Bluestem	54
Arrow-head Family	44	Bluestem Tribe	54
Arrowhead Order	44	Boltonia	43
Artichoke	37	Boneset	38
Arum	45	Borage	17
Arum Family	45	Borage Family	17
Arum Order	45	Bottlebrush	50
Asparagus	47	Bouncing Bet	5
Aspidistra	48	Bouvardia	31
Aster	42	Bridal Wreath	25
Aster Family	33	Bromus	57
Aster Order	32	Browallia	19
Astilbe	27	Bryophyllum	28
Avens	24	Buckwheat	7
B.		Buckwheat Family	7
Bachelor's Button	39	Buffalo Bur	16
Balloon-Vine	28	Bulrush	40
Balm	22	Burdock	37
Balmy	19	Burnet	25
Balsam	11	Butcher's Broom	47
Bamboo Tribe	59	Butomus	45
Barley	58	Butter-and-Eggs	10
Barley Tribe	58	Buttercup	1
Barnyard Grass	54	Buttercup Family	1
Bean	26	Buttercup Order	1
Beard Grass	54	Butterfly Fly	18

INDEX TO COMMON NAMES

	Page		Page		Page
<i>Clover</i>	26	E.		<i>Godetia</i>	29
<i>Club Rush</i>	49	<i>Eel-grass</i>	45	<i>Goldbeard</i>	54
<i>Cobaea</i>	14	<i>Egg-plant</i>	16	<i>Golden Glow</i>	40
<i>Cocklebur</i>	38	<i>Elephant's Ear</i>	30	<i>Golden-rod</i>	41
<i>Cockscomb</i>	6	<i>Epidendrum</i>	62	<i>Goldstem</i>	54
<i>Codiaeum</i>	13	<i>Epipactis</i>	62	<i>Goosefoot</i>	7
<i>Colchicum</i>	48	<i>Eragrostis</i>	58	<i>Goosefoot Family</i>	7
<i>Comfrey</i>	17	<i>Eupatorium</i>	38	<i>Gourd</i>	30
<i>Compass Plant</i>	40	<i>Evening Primrose</i>	29	<i>Gourd Family</i>	29
<i>Coneflower</i>	40	<i>Evening-Primrose Family</i>	28	<i>Gramma Grass</i>	55
<i>Coreopsis</i>	40	<i>Everlasting</i>	6, 37, 38	<i>Gramma Tribe</i>	55
<i>Corn</i>	54	<i>Everlasting Pea</i>	26	<i>Grass Family</i>	50
<i>Corn-cockle</i>	5			<i>Grass Order</i>	49
<i>Corn Tribe</i>	53	F.		<i>Green Pepper</i>	16
<i>Cotton</i>	10	<i>Faise Saffron</i>	37	<i>Grindelia</i>	43
<i>Cotyledon</i>	28	<i>Fennel</i>	31	<i>Ground Cherry</i>	16
<i>Cosmos</i>	40	<i>Fescue Grass</i>	58	<i>Groundnut</i>	26
<i>Couch Grass</i>	58	<i>Feverfew</i>	43	<i>Gypsophila</i>	5
<i>Cow Parsnip</i>	31	<i>Finger Grass</i>	54		
<i>Cowslip</i>	13	<i>Fireweed</i>	29	H.	
<i>Cranesbill</i>	10	<i>Five-finger</i>	24	<i>Harebell</i>	32
<i>Cress</i>	4	<i>Flax</i>	12	<i>Hawksbeard</i>	44
<i>Crocus</i>	60	<i>Flax Family</i>	12	<i>Hawkweed</i>	44
<i>Croton</i>	13	<i>Flower-of-an-Hour</i>	9	<i>Haworthia</i>	47
<i>Crowfoot</i>	1	<i>Foliage-plant</i>	23	<i>Heal-all</i>	23
<i>Cucumber</i>	30	<i>Four O'Clock</i>	8	<i>Heart's-ease</i>	4
<i>Cup Plant</i>	40	<i>Four O'Clock Family</i>	8	<i>Heartsease</i>	7
<i>Cut-grass</i>	55	<i>Foxglove</i>	19	<i>Heart-Seed</i>	28
<i>Cyclamen</i>	14	<i>Foxtail</i>	54	<i>Hedge Mustard</i>	4
<i>Cyclanthera</i>	30	<i>Foxtail Grass</i>	56	<i>Hedge Nettle</i>	24
<i>Cyperus</i>	50	<i>Frasera</i>	18	<i>Heliotrope</i>	17
<i>Cypress Vine</i>	15	<i>Freesia</i>	60	<i>Hellebore</i>	1
<i>Cypripedium</i>	62	<i>Fuchsia</i>	29	<i>Hemp</i>	10
				<i>Henbane</i>	16
				<i>Henbit</i>	24
D.		G.		<i>Herb Robert</i>	10
<i>Dahlia</i>	40	<i>Gaillardia</i>	43	<i>Hibiscus</i>	9
<i>Daisy</i>	42, 43	<i>Galinsoga</i>	40	<i>Hearhound</i>	23
<i>Dalea</i>	27	<i>Gardenia</i>	31	<i>Hollyhock</i>	9
<i>Dandelion</i>	43	<i>Garden Trumpet</i>	19	<i>Honeysuckle</i>	32
<i>Darnel</i>	58	<i>Genista</i>	27	<i>Honeysuckle Family</i>	32
<i>Day Flower</i>	46	<i>Genitian</i>	17	<i>Hop</i>	10
<i>Day Lily</i>	48	<i>Genitian Family</i>	17	<i>Horse-bean</i>	27
<i>Dead-nettle</i>	24	<i>Genitian Order</i>	17	<i>Horse-mint</i>	22
<i>Dendrobium</i>	62	<i>Geranium</i>	11	<i>Horse Nettle</i>	16
<i>Dill</i>	31	<i>Geranium Family</i>	10	<i>Horse-radish</i>	4
<i>Dock</i>	8	<i>Geranium Order</i>	10	<i>Hounds-tongue</i>	17
<i>Dodder</i>	15	<i>Germander</i>	23	<i>Hyacinth</i>	48
<i>Doellingeria</i>	42	<i>Gesneria Family</i>	20	<i>Hyssop</i>	23
<i>Dagbane Family</i>	18	<i>Giant Hyssop</i>	24		
<i>Dragon-head</i>	23	<i>Gill</i>	24	I.	
<i>Drop-seed</i>	56	<i>Gilliflower</i>	4		
<i>Dulichium</i>	50	<i>Gladiolus</i>	60	<i>Incarvillea</i>	20
<i>Dysodia</i>	43	<i>Gloxinia</i>	20	<i>Indian Cress</i>	11
		<i>Goatsbeard</i>	43	<i>Iresine</i>	7

INDEX TO COMMON NAMES

	Page		Page	
<i>Iris</i>	60	<i>Mallow Family</i>	8	<i>Narcissus Family</i>
<i>Iris Family</i>	60	<i>Mallow Order</i>	8	<i>Nasturtium</i>
<i>Iris Order</i>	59	<i>Maltaviscus</i>	9	<i>Nichollia</i>
<i>Ironweed</i>	38	<i>Mangel Wurzel</i>	7	<i>Nicotiana</i>
<i>Ixia</i>	60	<i>Maple Order</i>	28	
		<i>Marigold</i>	43	O.
		<i>Marjoram</i>	23	
J.		<i>Marsh Elder</i>	38	<i>Onion</i>
<i>Jacobaea Lily</i>	59	<i>Marsh Mallow</i>	9	<i>Oni Frigo</i>
<i>Jerusalem Cherry</i>	16	<i>Marvel-of-Peru</i>	8	<i>Odonostachys</i>
<i>Jewel-weed</i>	11	<i>Matrimony Vine</i>	16	<i>Olea</i>
<i>Jimson Weed</i>	16	<i>Maurandia</i>	19	<i>Oleander</i>
<i>Job's Tears</i>	54	<i>Mayweed</i>	40	<i>Onodium</i>
<i>Joe-pye Weed</i>	38	<i>Meadow Grass</i>	57	<i>Onion</i>
<i>Johnsonian Lily</i>	59	<i>Meadowsweet</i>	25	<i>Orange</i>
		<i>Mignonette</i>	4	<i>Orchid Grass</i>
K.		<i>Mignonette Family</i>	4	<i>Orchid Family</i>
<i>Kenilworth Ivy</i>	19	<i>Milfoil</i>	43	<i>Orchid Order</i>
<i>Kinghead</i>	38	<i>Milkwort</i>	4	<i>Ornithogalum</i>
<i>Knotweed</i>	7	<i>Milkwort Family</i>	4	<i>Oregano Tree</i>
<i>Koeleria</i>	57	<i>Millet Tribe</i>	54	<i>Oxeye</i>
<i>Kuhnia</i>	38	<i>Mint</i>	22	<i>Oxalis</i>
		<i>Mint Family</i>	21	<i>Oxalis Family</i>
		<i>Mint Order</i>	21	<i>Oyster Plant</i>
L.				P.
<i>Lady's Thumb</i>	8	<i>Moccasin Flower</i>	62	
<i>Laelia</i>	62	<i>Mock Apple</i>	30	<i>Palms, Grass</i>
<i>Lambs-Quarters</i>	7	<i>Mock Cypress</i>	7	<i>Panax</i>
<i>Lantana</i>	21	<i>Moneywort</i>	14	<i>Panax</i>
<i>Larkspur</i>	2	<i>Monkey Flower</i>	19	<i>Panax Order</i>
<i>Lavender</i>	23	<i>Monkshood</i>	2	<i>Panay</i>
<i>Leadwort</i>	13	<i>Monstera</i>	45	<i>Panay, Pua</i>
<i>Leadwort Family</i>	13	<i>Montbretia</i>	61	
<i>Lemon</i>	12	<i>Moonflower</i>	15	<i>Pea Family</i>
<i>Lettuce</i>	44	<i>Morning Glory</i>	15	<i>Peanut</i>
<i>Lily</i>	47	<i>Morning Glory Family</i>	14	<i>Pellitory</i>
<i>Lily Family</i>	46	<i>Moss Rose</i>	6	<i>Pennisetum</i>
<i>Lily-of-the-valley</i>	48	<i>Motherwort</i>	23	<i>Pepper grass</i>
<i>Lily Order</i>	46	<i>Mountain Mint</i>	23	<i>Peppermint</i>
<i>Lima Bean</i>	26	<i>Mountain Rice</i>	56	<i>Persilla</i>
<i>Live-for-ever</i>	28	<i>Muhlenbergia</i>	56	<i>Persicaria</i>
<i>Lobelia</i>	32	<i>Mulberry Family</i>	10	<i>Petals</i>
<i>Loosestrife</i>	14, 28	<i>Mullein</i>	20	<i>Petals Family</i>
<i>Loosestrife Family</i>	28	<i>Muskmelon</i>	30	<i>Petals Order</i>
<i>Loosestrife Order</i>	28	<i>Musk Plant</i>	19	<i>Petiveriaceae</i>
<i>Lopezia</i>	29	<i>Mustard</i>	3	<i>Polygonum Family</i>
<i>Lopseed</i>	21	<i>Mustard Family</i>	3	<i>Pine plant</i>
<i>Lucerne</i>	26	<i>Mustard Order</i>	2	<i>Pineapple</i>
<i>Lupine</i>	25			<i>Pineapple</i>
				N.
M.				
<i>Madder Family</i>	31	<i>Nabalus</i>	44	
<i>Madder Order</i>	31	<i>Narcissus</i>	59	<i>Pineapple, Canna</i>
<i>Maid-in-a-Mist</i>	1	<i>Nasturtium</i>	11	<i>Pink</i>
<i>Maize</i>	54	<i>Nerme</i>	60	<i>Pink Family</i>
<i>Mallow</i>	9	<i>Nettle</i>	10	<i>Pink shells</i>

INDEX TO COMMON NAMES

Page		Page		Page	
Plantain	14	Rye Grass	58	Storksbill	11
Plantain Family	14	Rye Tribe	58	Stramonium	16
Platycodon	32			Strawberry	24
Poinsettia	12		S.	Strawberry Geranium	27
Polanisia	3	Safflower	37	Streptocarpus	20
Poppy	2	Sage	22	Sunflower	41
Poppy Family	2	Salsify	43	Sweet Alyssum	3
Potentilla	24	Sandbur	54	Sweet Basil	23
Potato	16	Sanicle	38	Sweet Clover	26
Potato Family	15	Savory	24	Sweet Pea	26
Prairie Clover	27	Saxifrage	27	Sweet Potato	15
Primrose	13	Saxifrage Family	27	Sweet Scabious	33
Primrose Family	13	Scarlet Runner	26	Sweet William	14
Primrose Order	13	Scilla	48	Sweet William	5
Prince's Feather	6, 8	Sea Holly	31		T.
Pumpkin	30	Sedge	50	Tansy	38
Purple Coronilla	27	Sedge Family	49	Tare	27
Purslane	6	Self-heal	23	Teasel	33
Purslane Family	6	Senna	27	Teasel Family	32
Q.		Sensitive Plant	27	Telanthera	7
Quack Grass	58	Shepherd's Purse	3	Telegraph Plant	26
Quaking Grass	57	Silphium	40	Thistle	37
R.		Skullcap	23	Thorn-apple	16
Rabbit-foot	26	Slough Grass	55	Thrift	13
Radish	3	Smartweed	8	Thunbergia	20
Ragged Lady	1	Snapdragon	19	Thyme	23
Ragged Robin	5	Snapdragon Family	18	Tickseed	40
Ragweed	38	Snapdragon Order	18	Tick-Trefoil	26
Red-hot Poker	48	Sneezeweed	43	Tillandsia	61
Red Mallow	9	Snow-on-the-Mountain	13	Timothy	56
Red Pepper	16	Soapberry Family	28	Tobacco	17
Red Top	56	Soapwort	5	Tomato	16
Red Top Tribe	56	Sorghum	54	Torenia	19
Reed Grass	56	Sorrel	8	Touch-me-not	11
Reed-grass	57	Sow-thistle	44	Touch-me-not Family	11
Rhubarb	8	Spanish Moss	61	Tritelia	48
Rice	55	Spearmint	22	Tropaeolum	11
Rice Tribe	55	Speedwell	19	Tropaeolum Family	11
Richweed	10	Spelt	58	Tuberose	59
Rocket	2	Spiderwort	46	Tulip	47
Rocky Mountain Bee Plant	3	Spiderwort Family	46	Turnip	3
Rose	24	Spike Rush	49	Turtle-head	19
Rose Bay	18	Spinach	7		U.
Rose Family	24	Spiraea	25		
Rose-Mallow	9	Spiranthes	62	Unicorn Plant	20
Rosemary	22	Spotted Medic	26		V.
Rose of China	9	Spurge	12		
Rose Order	24	Spurge Family	12	Vaccaria	5
Rue	12	Squash	30	Valerian	32
Rue Family	12	Squirrel-tail Grass	58	Valerian Family	32
Rush-grass	56	Starwort-chickweed	5	Vegetable Sponge	30
Russian Thistle	7	Stock	4	Velvet Leaf	9
Rye	58	Stonecrop	28	Verbena	21
		Stonecrop Family	27	Verbena Family	21

INDEX TO COMMON NAMES

73

Page	Page	Page	Page
<i>Verbesina</i>	40	<i>Water pepper</i>	45
<i>Vervain</i>	21	<i>Water-weed</i>	45
<i>Vetch</i>	27	<i>Water-weed Family</i>	45
<i>Violet</i>	4	<i>Water weed Order</i>	45
<i>Violet Family</i>	4	<i>Wheat</i>	58
<i>Virgin's Bower</i>	1	<i>Wheat Grass</i>	58
W.			
<i>Wall pepper</i>	28	<i>Whin</i>	27
<i>Wandering Jew</i>	46	<i>White Grass</i>	55
<i>Water-hemp</i>	6	<i>Wild Bergamot</i>	22
<i>Water-plantain</i>	44	<i>Wild Peanut</i>	26
		<i>Wild Rye</i>	58
		<i>Windflower</i>	1
Y.			
Z.			

Index to Scientific Names

Page	Page	Page			
A.					
<i>Abronia</i>	8	<i>Arachis</i>	27	<i>Callirhoe</i>	9
<i>Abutilon</i>	9	<i>Arales</i>	45	<i>Callistephus</i>	42
<i>Acalypha</i>	12	<i>Arctium</i>	37	<i>Campanales</i>	32
<i>Acanthaceae</i>	20	<i>Argemone</i>	2	<i>Campanula</i>	32
<i>Acanthus</i>	20	<i>Armeria</i>	13	<i>Campanulaceae</i>	32
<i>Achillea</i>	43	<i>Artemisia</i>	38	<i>Canna</i>	61
<i>Achimenes</i>	20	<i>Arum</i>	45	<i>Cannabis</i>	10
<i>Acnida</i>	6	<i>Arundinaria</i>	59	<i>Cannaceae</i>	61
<i>Aconitum</i>	2	<i>Asparagus</i>	47	<i>Capparidaceae</i>	2
<i>Agapanthus</i>	48	<i>Aspidistra</i>	48	<i>Caprifoliaceae</i>	32
<i>Ageratum</i>	38	<i>Aster</i>	42	<i>Capsicum</i>	16
<i>Agropyrum</i>	58	<i>Asteraceae</i>	33	<i>Cardiospermum</i>	28
<i>Agrostideae</i>	56	<i>Asterales</i>	32	<i>Carduus</i>	37
<i>Agrostis</i>	56	<i>Astilbe</i>	27	<i>Carex</i>	50
<i>Alisma</i>	44	<i>Atropa</i>	16	<i>Carthamus</i>	37
<i>Alismaceae</i>	44	<i>Avenae</i>	56	<i>Carum</i>	31
<i>Alismales</i>	44	<i>Avena</i>	57	<i>Caryophyllaceae</i>	4
<i>Allionia</i>	8	<i>Balsaminaceae</i>	11	<i>Caryophyllales</i>	4
<i>Allioniaceae</i>	8	<i>Bambuseae</i>	59	<i>Cassia</i>	27
<i>Allium</i>	48	<i>Begonia</i>	30	<i>Cattleya</i>	62
<i>Aloe</i>	47	<i>Begoniaceae</i>	30	<i>Celosia</i>	6
<i>Alopecurus</i>	56	<i>Bellis</i>	42	<i>Cenchrus</i>	54
<i>Althaea</i>	9	<i>Beta</i>	7	<i>Centaurea</i>	39
<i>Alyssum</i>	3	<i>Bidens</i>	39	<i>Centranthus</i>	32
<i>Amarantaceae</i>	6	<i>Bignoniaceae</i>	20	<i>Cerastium</i>	6
<i>Amarantus</i>	6	<i>Boltonia</i>	43	<i>Chamaenerium</i>	29
<i>Amaryllidaceae</i>	59	<i>Boraginaceae</i>	17	<i>Chelidonium</i>	2
<i>Amaryllis</i>	59	<i>Borago</i>	17	<i>Chelone</i>	19
<i>Ambrosia</i>	38	<i>Bouteloua</i>	55	<i>Chenopodiaceae</i>	7
<i>Ammobium</i>	37	<i>Bouvardia</i>	31	<i>Chenopodium</i>	7
<i>Amorphophallus</i>	45	<i>Brassica</i>	3	<i>Chlorideae</i>	55
<i>Anagallis</i>	14	<i>Brassicaceae</i>	3	<i>Chlorophytum</i>	48
<i>Ananas</i>	61	<i>Brassicales</i>	2	<i>Chrysanthemum</i>	43
<i>Anchusa</i>	17	<i>Briza</i>	57	<i>Chrysopogon</i>	54
<i>Andropogon</i>	54	<i>Bromeliaceae</i>	61	<i>Chrysopsis</i>	41
<i>Andropogoneae</i>	54	<i>Bromus</i>	57	<i>Cichorium</i>	44
<i>Anemone</i>	1	<i>Browallia</i>	19	<i>Cinna</i>	56
<i>Anethum</i>	31	<i>Bryophyllum</i>	28	<i>Citrus</i>	12
<i>Angiospermae</i>	1	<i>Bursa</i>	3	<i>Clematis</i>	1
<i>Anthemis</i>	40	<i>Butomus</i>	45	<i>Cleome</i>	3
<i>Antirrhinum</i>	19			<i>Clivia</i>	59
<i>Apiaceae</i>	30			<i>Cobaea</i>	14
<i>Apiales</i>	30	<i>Cactales</i>	29	<i>Codium</i>	13
<i>Apios</i>	26	<i>Calamagrostis</i>	56	<i>Coix</i>	54
<i>Apium</i>	31	<i>Calamovilfa</i>	56	<i>Colchicum</i>	48
<i>Apocynaceae</i>	18	<i>Calceolaria</i>	18	<i>Coleus</i>	23
<i>Araceae</i>	45	<i>Calendula</i>	43	<i>Commelinaceae</i>	46
				<i>Commelinaceae</i>	46
				<i>Convallaria</i>	48

INDEX TO SCIENTIFIC NAMES

75

Page	Page	Page			
<i>Convolvulaceae</i>	14	<i>Euphorbia</i>	12	<i>Hippocratea</i>	19
<i>Convolvulus</i>	15	<i>Euphorbiaceae</i>	12	<i>Hordeae</i>	18
<i>Coreopsis</i>	40			<i>Hordeum</i>	38
<i>Coronilla</i>	27			<i>Humulus</i>	10
<i>Cosmos</i>	40	<i>Fabaceae</i>	25	<i>Hymenoxys</i>	46
<i>Cotyledon</i>	28	<i>Fagopyrum</i>	7	<i>Hydrocleys</i>	47
<i>Crassulaceae</i>	27	<i>Falcata</i>	26	<i>Hydrocharitaceae</i>	45
<i>Crepis</i>	44	<i>Festuca</i>	58	<i>Hydrolymus</i>	45
<i>Crocus</i>	60	<i>Festuceae</i>	57	<i>Hydrophyllum</i>	16
<i>Cucumis</i>	30	<i>Foeniculum</i>	31	<i>Hyoscyamus</i>	23
<i>Cucurbita</i>	30	<i>Fragaria</i>	24	<i>Hyoscyamus</i>	19
<i>Cucurbitaceae</i>	29	<i>Frasera</i>	18		
<i>Cuphea</i>	28	<i>Freesia</i>	60		
<i>Cuscuta</i>	15	<i>Fuchsia</i>	29	<i>Iberis</i>	3
<i>Cyclamen</i>	14	<i>Funkia</i>	48	<i>Impatiens</i>	11
<i>Cyclanthera</i>	30			<i>Incavatillea</i>	20
<i>Cynara</i>	37			<i>Ipomoea</i>	15
<i>Cynoglossum</i>	17	<i>Gaillardia</i>	43	<i>Iresine</i>	7
<i>Cyperaceae</i>	49	<i>Galinsoga</i>	40	<i>Iridaceae</i>	60
<i>Cyperus</i>	50	<i>Galium</i>	31	<i>Iridales</i>	19
<i>Cypripedium</i>	62	<i>Gardenia</i>	31	<i>Iris</i>	60
		<i>Genista</i>	27	<i>Iris</i>	58
D.		<i>Gentiana</i>	17	<i>Ixia</i>	60
<i>Dactylis</i>	57	<i>Gentianaceae</i>	17		
<i>Dahlia</i>	40	<i>Gentianales</i>	17		
<i>Dalea</i>	27	<i>Geraniaceae</i>	10	<i>Kniphofia</i>	48
<i>Datura</i>	16	<i>Geraniales</i>	10	<i>Kochia</i>	7
<i>Daucus</i>	31	<i>Geranium</i>	10	<i>Koelleria</i>	57
<i>Delphinium</i>	2	<i>Gesneraceae</i>	26	<i>Koellia</i>	13
<i>Dendrobium</i>	62	<i>Geum</i>	24	<i>Kuhnia</i>	38
<i>Desmodium</i>	26	<i>Gladiolus</i>	60		
<i>Dianthus</i>	5	<i>Glaucium</i>	2		
<i>Digitalis</i>	19	<i>Gomphrena</i>	6	<i>Laciniaria</i>	37
<i>Digitaria</i>	54	<i>Gossypium</i>	10	<i>Lactuca</i>	44
<i>Dipsaceae</i>	32	<i>Graminaceae</i>	50	<i>Laelia</i>	62
<i>Dipsacus</i>	33	<i>Grindelia</i>	43	<i>Lagenaria</i>	30
<i>Doellingeria</i>	42	<i>Gypsophila</i>	5	<i>Lamia</i>	21
<i>Dracocephalum</i>	23			<i>Lamiales</i>	21
<i>Dulichium</i>	50			<i>Lamium</i>	24
<i>Dysodia</i>	43	<i>Hamamelidaceae</i>	28	<i>Lantana</i>	21
		<i>Hamamelis</i>	28	<i>Lathyrus</i>	26
E.		<i>Haworthia</i>	47	<i>Lavandula</i>	23
<i>Ecballium</i>	30	<i>Helenium</i>	43	<i>Leersia</i>	55
<i>Echinacea</i>	40	<i>Heleocharis</i>	49	<i>Leonurus</i>	23
<i>Echinochloa</i>	54	<i>Helianthella</i>	41	<i>Lepidium</i>	3
<i>Elymus</i>	58	<i>Helianthus</i>	41	<i>Lepidium</i>	2
<i>Epidendrum</i>	62	<i>Helichrysum</i>	38	<i>Liliaceae</i>	46
<i>Epipactis</i>	62	<i>Heliospopsis</i>	41	<i>Liliales</i>	4
<i>Eragrostis</i>	58	<i>Heliotropium</i>	17	<i>Lilium</i>	47
<i>Erigeron</i>	42	<i>Helleborus</i>	1	<i>Linaceae</i>	12
<i>Erodium</i>	11	<i>Heracleum</i>	31	<i>Linaria</i>	19
<i>Eryngium</i>	31	<i>Heuchera</i>	27	<i>Linum</i>	12
<i>Eschscholtzia</i>	2	<i>Hibiscus</i>	9	<i>Lobelia</i>	32
<i>Eupatorium</i>	38	<i>Hieracium</i>	44	<i>Lolium</i>	58

INDEX TO SCIENTIFIC NAMES

	Page		Page	Page	
<i>Lonicera</i>	32	<i>Onagraceae</i>	28	<i>Potentilla</i>	24
<i>Lopanthus</i>	24	<i>Oncidum</i>	63	<i>Poterium</i>	25
<i>Lopezia</i>	29	<i>Orchidaceae</i>	61	<i>Primula</i>	13
<i>Luffa</i>	30	<i>Orchidales</i>	61	<i>Primulaceae</i>	13
<i>Lupinus</i>	25	<i>Origanum</i>	23	<i>Primulales</i>	13
<i>Lychnis</i>	5	<i>Ornithogalum</i>	48	<i>Prunella</i>	23
<i>Lycium</i>	16	<i>Oryza</i>	55		
<i>Lycopersicum</i>	16	<i>Oryzeae</i>	55		Q.
<i>Lysimachia</i>	14	<i>Oryzopsis</i>	56	<i>Quamoclit</i>	15
<i>Lythraceae</i>	28	<i>Oxalidaceae</i>	11		
<i>Lythrales</i>	28	<i>Oxalis</i>	11		R.
<i>Lythrum</i>	28			<i>Ranales</i>	1
				<i>Ranunculaceae</i>	1
				<i>Ranunculus</i>	1
M.					
<i>Malva</i>	9	<i>Paniceae</i>	54	<i>Raphanus</i>	3
<i>Malvaceae</i>	8	<i>Panicum</i>	55	<i>Ratibida</i>	40
<i>Malvales</i>	8	<i>Papaver</i>	2	<i>Reseda</i>	4
<i>Malvastrum</i>	9	<i>Papaveraceae</i>	2	<i>Resedaceae</i>	4
<i>Malvaviscus</i>	9	<i>Parietaria</i>	10	<i>Rheum</i>	8
<i>Marrubium</i>	23	<i>Pastinaca</i>	31	<i>Ricinus</i>	12
<i>Martynia</i>	20	<i>Pelargonium</i>	11	<i>Rosa</i>	24
<i>Matricaria</i>	43	<i>Pentstemon</i>	19	<i>Rosaceae</i>	24
<i>Matthiola</i>	4	<i>Pervilla</i>	22	<i>Rosales</i>	24
<i>Maurandia</i>	19	<i>Petalostemon</i>	27	<i>Rosmarinus</i>	22
<i>Maydeae</i>	53	<i>Petunia</i>	17	<i>Rubiaceae</i>	31
<i>Medicago</i>	26	<i>Phalarideae</i>	55	<i>Rubiales</i>	31
<i>Melilotus</i>	26	<i>Phalaris</i>	55	<i>Rudbeckia</i>	40
<i>Melissa</i>	23	<i>Phascolus</i>	26	<i>Rumex</i>	8
<i>Mentha</i>	22	<i>Philotria</i>	45	<i>Ruscus</i>	47
<i>Micranthelis</i>	30	<i>Phleum</i>	56	<i>Ruta</i>	12
<i>Mimosa</i>	27	<i>Phlox</i>	14	<i>Rutaceae</i>	12
<i>Mimulus</i>	19	<i>Phragmites</i>	57		
<i>Mirabilis</i>	8	<i>Phryma</i>	21		S.
<i>Mollugaceae</i>	6	<i>Physalis</i>	16	<i>Sagittaria</i>	44
<i>Mollugo</i>	6	<i>Physostegia</i>	23	<i>Salpoglossis</i>	19
<i>Monarda</i>	22	<i>Pilea</i>	10	<i>Salsola</i>	7
<i>Monstera</i>	45	<i>Plantaginaceae</i>	14	<i>Salvia</i>	22
<i>Moraceae</i>	10	<i>Plantago</i>	14	<i>Sapindaceae</i>	28
<i>Moraea</i>	60	<i>Platycodon</i>	32	<i>Sapindales</i>	28
<i>Muhlenbergia</i>	56	<i>Plumbaginaceae</i>	13	<i>Saponaria</i>	5
		<i>Plumbago</i>	13	<i>Satureia</i>	24
N.					
<i>Nabalus</i>	44	<i>Poa</i>	57	<i>Saxifraga</i>	27
<i>Narcissus</i>	59	<i>Poales</i>	49	<i>Saxifragaceae</i>	27
<i>Nasturtium</i>	4	<i>Polanisia</i>	3	<i>Scabiosa</i>	33
<i>Nepeta</i>	24	<i>Polemoniaceae</i>	14	<i>Schizanthus</i>	18
<i>Nerine</i>	60	<i>Polemoniales</i>	14	<i>Scilla</i>	48
<i>Nerium</i>	18	<i>Polianthes</i>	59	<i>Scirpus</i>	49
<i>Nicotiana</i>	17	<i>Polygonaceae</i>	4	<i>Scitamineales</i>	61
<i>Nigella</i>	1	<i>Polygonum</i>	4	<i>Scrophulariaceae</i>	18
		<i>Pontederia</i>	7	<i>Scrophulariales</i>	18
O.					
<i>Ocimum</i>	23	<i>Pontederiaceae</i>	49	<i>Scutellaria</i>	23
<i>Odontoglossum</i>	63	<i>Portulaca</i>	6	<i>Secale</i>	58
<i>Oenothera</i>	29	<i>Portulacaceae</i>	6	<i>Sedum</i>	28
				<i>Setaria</i>	54
				<i>Sicyos</i>	30

INDEX TO SCIENTIFIC NAMES

77

	Page		Page		Page
<i>Silene</i>	5	<i>Taraxacum</i>	43	<i>Valerianæ</i>	32
<i>Silphium</i>	40	<i>Telanthera</i>	7	<i>Valerianæ</i>	32
<i>Sinningia</i>	20	<i>Teucrium</i>	23	<i>Valerianæ</i>	48
<i>Sisymbrium</i>	4	<i>Thunbergia</i>	20	<i>Vitis</i>	20
<i>Solanaceæ</i>	15	<i>Thymus</i>	23	<i>Verbena</i>	21
<i>Solanum</i>	16	<i>Tillandsia</i>	61	<i>Verbenaceæ</i>	21
<i>Solidago</i>	41	<i>Torenia</i>	19	<i>Verbena</i>	40
<i>Sonchus</i>	44	<i>Tradescantia</i>	46	<i>Verbena</i>	58
<i>Sorghum</i>	54	<i>Tragopogon</i>	43	<i>Verbena</i>	18
<i>Spartina</i>	55	<i>Trifolium</i>	26	<i>Verbena</i>	27
<i>Spinacea</i>	7	<i>Tritelia</i>	48	<i>Verbena</i>	16
<i>Spiraea</i>	25	<i>Triticum</i>	58	<i>Verbena</i>	4
<i>Spiranthes</i>	62	<i>Tritonia</i>	61	<i>Verbena</i>	4
<i>Sporobolus</i>	56	<i>Tropaeolaceæ</i>	11		X.
<i>Sprekelia</i>	59	<i>Tropaeolum</i>	11		
<i>Stachys</i>	24	<i>Tulipa</i>	47	<i>Xanthium</i>	38
<i>Stellaria</i>	5				Z.
<i>Streptocarpus</i>	20				
<i>Symphytum</i>	17	<i>Urtica</i>	10	<i>Zantedeschia</i>	48
		<i>Urticaceæ</i>	10	<i>Zea</i>	54
T.				<i>Zelkingia</i>	48
<i>Tagetes</i>	43			<i>Zelkova</i>	40
<i>Tanacetum</i>	38	<i>Vaccaria</i>	5	<i>Zembla</i>	55
		U.			
		V.			

Gaylord 
GAYLAMOUNTTM
PAMPHLET BINDER
Syracuse, N.Y.
Stockton, Calif.

